

Renewables Obligation

Annual Report 2012-13

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Overview

The Renewables Obligation (RO) is a scheme designed to support the deployment of large-scale renewable electricity generating stations in the UK. It places an obligation on licensed electricity suppliers to source a proportion of their supply to customers in the UK from eligible renewable sources. The obligation level is set annually by the UK and devolved governments.

Ofgem accredited 892 generating stations during the 2012-13 obligation period, more than twice as many as in 2011-12. Most of these (706) were stations under 50 kW located in Northern Ireland. These stations had a combined capacity of 3.7 MW, out of the UK total of 2,413 MW accredited in 2012-13. The majority of Renewables Obligation Certificates (ROCs) continued to be issued to fuelled¹, offshore and onshore wind stations. The contribution to total UK electricity supply from renewable generation accredited under the scheme, which surpassed 10% for the first time in 2011-12, rose to 11.2%. All of the suppliers with an obligation under the RO in 2012-13 complied by presenting ROCs, making a buy-out payment, or through a combination of both.

¹ Fuelled technology refers to stations generating from eligible biomass, bioliquid, energy crops or waste.

Context

The Renewables Obligation (RO) is currently the main mechanism for supporting the large-scale deployment of renewable electricity in the UK. The scheme came into effect in England, Wales and Scotland in 2002 and in Northern Ireland in 2005. It is governed by three separate, though similar, pieces of legislation to reflect the responsibilities of the devolved administrations.

The Renewables Obligation Orders² ('the Orders') place an obligation on licensed electricity suppliers in the UK to source a proportion of their supply to customers from eligible renewable sources. The obligation is set annually by the UK and devolved governments as a certain number of Renewables Obligation Certificates (ROCs) per MWh of electricity supplied to customers.

ROCs are issued to accredited generators by Ofgem on the basis of their reported renewable generation. Licensed suppliers fulfil their obligations under the RO by presenting ROCs acquired from generators, by making a fixed 'buy-out' payment per ROC, or through a combination of both.

The scheme has been subject to various amendments, the most significant being in April 2009 through the introduction of banding where different levels of financial support were awarded to generators based on their generation technology. Further changes in April 2010 included extending the scheme to 2037 in England, Wales and Scotland (it was extended to 2037 in Northern Ireland in 2013), while the 1 April 2011 amendments introduced a definition of 'fossil-derived bioliquid' and phasing provisions for offshore wind farms. A number of further changes were introduced in amendments on 1 April 2013 following a review of banding levels; the work done by Ofgem in preparation for these changes is covered in this document.

The RO schemes are administered by the Gas and Electricity Markets Authority ('the Authority') with its day-to-day functions performed by its office ('Ofgem'). E-Serve is the division of Ofgem responsible for delivering environmental and social schemes, including the RO, on behalf of government. Each year an annual report is published to meet the requirements of the Orders, as well as addressing the duties in Ofgem's 'Corporate Strategy and Plan' towards 'delivery of government programmes for a sustainable energy sector'.

² The Renewables Obligation Order 2009 (as amended) (RO), Renewables Obligation (Scotland) Order 2009 (as amended) (ROS) and Renewables Obligation Order (Northern Ireland) 2009 (as amended) (NIRO). Appendix 1 contains a full list of recent RO legislation.

Associated documents

The annual reports for all previous obligation periods are published on the Renewables Obligation homepage on the Ofgem website:

<http://www.ofgem.gov.uk/Sustainability/Environment/RenewablObl/Pages/RenewablObl.aspx>

Information for licensed UK electricity suppliers on how to comply with the RO can be found here:

<https://www.ofgem.gov.uk/environmental-programmes/renewables-obligation-ro/information-suppliers>

Guidance for generators who are seeking or currently hold accreditation under the scheme can be found here:

<https://www.ofgem.gov.uk/environmental-programmes/renewables-obligation-ro/information-generators>

We also have data reports available to download from our Renewables and CHP Register:

<https://www.renewablesandchp.ofgem.gov.uk/>

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Executive summary

Renewables Obligation 2012-13

This report provides information on the scheme during the 2012-13 obligation period (1 April 2012 – 31 March 2013). This includes the generating stations accredited under the RO Orders, the issue of Renewables Obligation Certificates (ROCs) to such stations and the associated generation, the sustainability of biomass fuels, compliance with the scheme by licensed electricity suppliers and audit activity undertaken by Ofgem.

The obligation level is set each year by the Department of Energy and Climate Change (DECC). In 2012-13 this resulted in an obligation on licensed suppliers in England, Wales and Scotland to present 15.8 ROCs per 100 MWh of electricity supplied to customers, and 8.1 ROCs per 100 MWh for suppliers in Northern Ireland.

Accredited generating stations

The total capacity of all stations with accreditations commencing up to 31 March 2013 was approximately 16,300 MW. Due to our methodology for treating the capacity of fuelled stations by using the average renewable fraction for a given year, this figure is not directly comparable with that of last year. Onshore wind (40%), fuelled (25%) and offshore wind (22%) stations between them comprise the majority of this total.

Approximately 2,400 MW across 892 generating stations of new renewable capacity was accredited during 2012-13. Two-thirds (1,600 MW) of this capacity was from offshore and onshore wind generators. The year was also notable for more than 50 large solar PV stations, with a combined capacity of 220 MW, being accredited shortly before the end of the obligation period. This was just before the level of support for solar PV stations dropped on 1 April 2013.

Trends in ROCs issued and generation

During 2012-13 we issued 44.3 million ROCs and the total output from accredited stations was 35 TWh. The total electricity supplied in the UK in 2012-13 was 314 TWh; the contribution to this from renewable generation, which surpassed 10% for the first time in 2011-12, increased further to 11.2%.

The divergence between the number of ROCs issued and the amount of renewable generation continued in 2012-13. Following the introduction of banding in 2009 whereby different technologies receive different levels of support in ROCs per MWh, the average ROC issue per MWh increased steadily; from 1.04 in 2009-10, to 1.07 in 2010-11 and then 1.12 in 2011-12. There was then a step increase to 1.27 ROCs per MWh in 2012-13. This was due to the high number of ROCs issued to offshore wind and some fuelled stations at a rate greater than 1 ROC per MWh.

Across the UK the most prevalent technology in terms of ROCs issued was, for the first time, offshore wind which received 15.7 million ROCs. It was followed by onshore wind and fuelled stations with 12.2 million and 8.7 million respectively. However, when considering electricity generation, *onshore* wind is the dominant technology, generating 12.1 TWh. Offshore wind and fuelled follow with 8.8 TWh and 6.3 TWh respectively. The 2012-13 year was the first when the technology with the highest ROC issue was not also the technology with the highest electricity

output. This is mainly due to the fast growth of offshore wind, in terms of capacity accredited, and the fact that it typically receives 2 ROCs per MWh. Onshore wind stations typically receive 1 ROC per MWh. Greenhouse gas (GHG) emissions abated due to generation under the scheme amounted to approximately 17.3 million tonnes in equivalent carbon dioxide (CO_{2e}), compared with 15.3 million tonnes in 2011-12. These figures are not directly comparable with those quoted in previous annual reports due to a change in methodology by the Department of Environment, Food and Rural Affairs (Defra) in calculating emissions factors.

Compliance with the RO by licensed electricity suppliers

All suppliers with an obligation under the RO in 2012-13 complied by presenting ROCs, making a buy-out payment, or through a combination of both. The buy-out and late payment funds redistributed to suppliers totalled £164 million. This is an increase on the £123 million redistributed in 2011-12, however it is still markedly lower than in the obligation periods from 2007-08 to 2010-11 when the totals redistributed were in excess of £300 million every year. In the last two years a higher proportion of suppliers' obligations were met through ROCs – 91.5% in 2012-13 and 91.3% in 2011-12 (compared with, for example, 71.9% in 2010-11). In total, 44.8 million ROCs were presented for compliance in 2012-13, an increase of just over 30% from the previous year.

Based on a ROC value of £44.38, the support per MWh supplied in 2012-13 was £56.36. The total value of the scheme was £1.99 billion. Therefore the cost of GHG savings under the scheme was £115.10 per tonne (CO_{2e}).

Audits under the RO

To issue ROCs to generating stations and verify compliance with the scheme by licensed suppliers, Ofgem requires accurate and reliable information to be reported. In 2012-13 our authorised representatives carried out audits of 30 generating stations and 12 suppliers.

Changes to the RO

A major review of RO banding was carried out in 2011-12; this resulted in the 2013 amendments which came into effect on 1 April 2013. The main changes across the schemes affecting fuelled stations were the amendment of the definition of 'energy crops' to 15 named species, the introduction of seven new conversion and tiered co-firing bands to support biomass and energy crops and the unit-by-unit approach which allows stations to convert to biomass over a period of time. Following the introduction of the Renewable Heat Incentive (RHI)³, Combined Heat and Power (CHP) bands will be closed to new entrants to the RO after 31 March 2015. Solar PV was split into new building-mounted and ground-mounted bands, while wave and tidal power stations were made eligible for 5 ROCs per MWh if they are under 30 MW in capacity. Grace periods were also introduced to allow stations to claim support at pre-1 April 2013 levels if their commissioning was delayed to a date post-1 April 2013 for reasons beyond their control. Finally a compliance cap was introduced for suppliers whereby they can meet up to 4% of their obligation with bioliquid ROCs.

Further changes are planned for 2014 on transition to the successor to the RO, Contracts for Difference (CfD), enhanced sustainability criteria for biomass feedstocks, new bands for offshore wind in Scotland and changes to solar PV bands in Northern Ireland.

³ <https://www.ofgem.gov.uk/environmental-programmes/renewable-heat-incentive-rhi>

1. Introduction

Status of this document

1.1 RO legislation⁴, collectively referred to as 'the Orders' in this report, sets out that the Authority must publish, by 1 April each year, a report in relation to the obligation period ending on 31 March of the previous year (the 'relevant period'). The Orders state the minimum information this report must include is⁵:

- Details of the compliance of each designated electricity supplier with its obligation, including ROCs presented and payments made and received by each supplier
- ROCs issued by the Authority broken down by generation technology
- Full details of any mutualisation⁶ triggered
- The outcome of any investigations conducted by the Authority into monitoring the compliance of suppliers and generators with the Orders.

1.2 Additional information not stipulated in the legislation, but which may be of interest to stakeholders or considered relevant by Ofgem, is also provided in this report.

1.3 Unless apparent from the context, where 'RO' is used in this report it denotes the Renewables Obligation England and Wales (RO), Renewables Obligation Scotland (ROS) and the Northern Ireland Renewables Obligation (NIRO) collectively. Similarly, where 'ROC' is used it denotes England and Wales Renewables Obligation Certificates (ROCs), Scottish Renewables Obligation Certificates (SROCs) and Northern Ireland Renewables Obligation Certificates (NIROCs).

1.4 The terms 'generator' and 'operator' are used interchangeably throughout the document.

1.5 The terms 'Ofgem', 'us', 'our' and 'we' are used interchangeably when referring to the exercise of the Authority's powers and functions under the Orders.

1.6 The data used to produce this report was downloaded on 21 November 2013 from the Renewables and CHP Register, referred to in this report as 'the Register'. Data downloaded from the Register after this date may vary slightly from the data in this report, as Ofgem may have since revoked or back-issued certificates and accredited new generating capacity.

Ofgem's responsibilities

1.7 The Orders detail Ofgem's powers and functions in respect of each obligation. Those functions include:

⁴ Appendix 1 contains a full list of current RO legislation.

⁵ Article 57 of the RO and ROS, Article 49 of the NIRO refer.

⁶ Mutualisation is the provision in legislation for suppliers to cover a shortfall in the buy-out fund through additional payments – please see Chapter 5 for further details.

- Accrediting generating stations as being capable of generating electricity from eligible renewable energy sources
- Publishing a list of accredited and preliminarily-accredited generating stations
- Issuing and revoking ROCs
- Establishing and maintaining a register of ROCs
- Monitoring compliance with the requirements of the Orders
- Calculating, annually, the buy-out price and mutualisation ceiling by adjusting them in line with the Retail Prices Index (RPI)
- Receiving buy-out payments and late payments from suppliers and redistributing these funds.

1.8 By virtue of section 121 of the Energy Act 2004, the Authority and the Utility Regulator Northern Ireland (UR) can enter into an arrangement for the Authority to act on behalf of UR in respect of the NIRO. This arrangement is facilitated by an Agency Services Agreement (ASA) with UR. Under this agreement, Ofgem is required to carry out the functions listed above on behalf of UR. However, UR retains the statutory responsibility for administering the NIRO.

1.9 Ofgem and UR recover their costs to administer the RO from the buy-out fund. We published a consultation⁷ on these costs for 2013-14 on our website in August 2013. In October 2013 the total recovered was £4.3 million, which represents 0.16% of the estimated total value of the scheme for 2013-14. This is an increase from the 2012-13 costs of £3.5 million, mainly due to the additional work carried out by Ofgem ahead of the significant legislative amendments introduced across all three RO Orders on 1 April 2013.

⁷ <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-costs-2013-14-consultation>

2. Generators accredited under the RO

Chapter Summary

This chapter, together with Appendix 2, provides information on the number and type of generating stations accredited under the Orders. We accredited 892 generating stations in 2012-13 at a total capacity of approximately 2,400 MW. Around two-thirds of this capacity was due to offshore and onshore wind generators. The year was also notable for more than 50 large solar PV stations being accredited in March 2013, shortly before the end of the obligation period when the level of support for these types of stations fell.

2.1 The Orders require Ofgem to accredit eligible renewable generating stations where they satisfy the criteria for accreditation. This process is facilitated by the Renewables and CHP Register, where generators can make and submit accreditation applications to us for review.

2.2 In general, generating stations are accredited under the RO from whichever is the latter: the date of their application or their date of commissioning. However, a significant period may be required before an application for accreditation can be approved. Hence a proportion of generators whose accreditations *commenced* within a particular obligation period were actually *approved* in a subsequent period.

2.3 On 21 November 2013 the total number of stations with accreditations⁸ under the RO commencing on or before 31 March 2013 was 3,151. This compares to a figure of 2,249 up to 31 March 2012⁹, reported in the last annual report. Prior to 2010, when the Feed-in Tariff (FIT) was introduced, the number of accredited stations was larger. Since the introduction of the FIT, microgenerators of 50 kW or less of certain technologies (wind, solar PV, hydro and anaerobic digestion (AD)) have been transferred from the RO to the FIT in Great Britain. Northern Ireland did not introduce a FIT scheme, however, therefore microgenerators there remain accredited under the RO. As at 31 March 2013, there are 1,541 such stations with a combined capacity of 8.8 MW.

2.4 The same methodology introduced last year to account for the accredited capacity of fuelled stations has again been used here. The Declared Net Capacity (DNC) of a fuelled station is multiplied by its average proportion of electricity derived from biomass in the relevant period, ie the renewable fraction or qualifying percentage. Where an accredited fuelled generator has not submitted any generating data during this period, the weighted (by DNC) average renewable fraction for all other (active) generators has been applied. This was 12.2% in 2012-13. Please see last year's annual report¹⁰ for further details of the methodology.

Stations accredited from the start of the scheme to the end of 2012-13

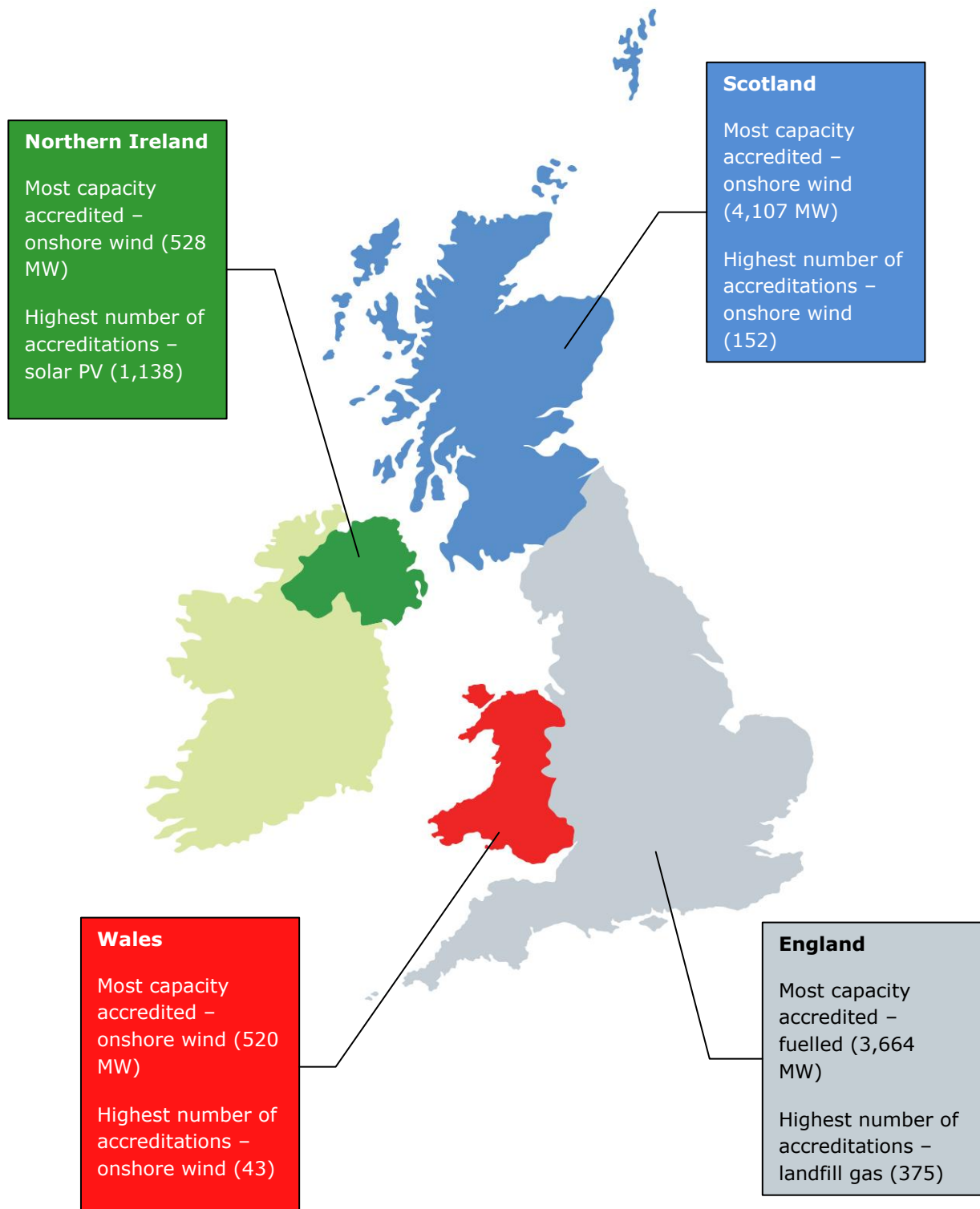
2.5 The most prominent generation technology accredited, either in terms of combined total capacity or total number of stations accredited since the start of the scheme, varies across the countries of the UK. This can be seen in **Figure 1**.

⁸ This statistic, and all other references to 'accreditation' in this report, refer to 'full' and not 'preliminary' accreditation.

⁹ This total and the previous one for 2013 include micro generation stations with a capacity of ≤ 50kW that remain in the RO (predominantly located in Northern Ireland).

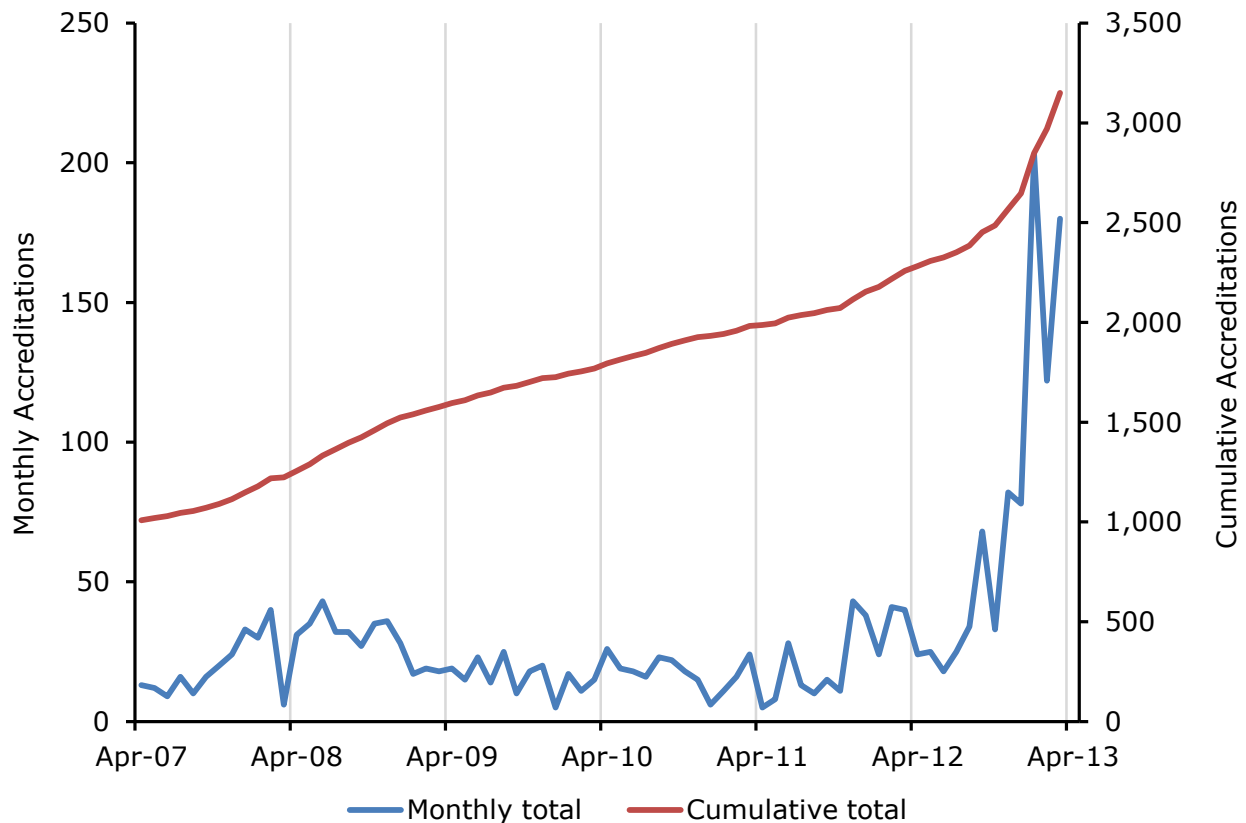
¹⁰ <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-annual-report-2011-12>

Figure 1: Most prominent renewable generation technologies accredited in the UK by capacity and number of accreditations



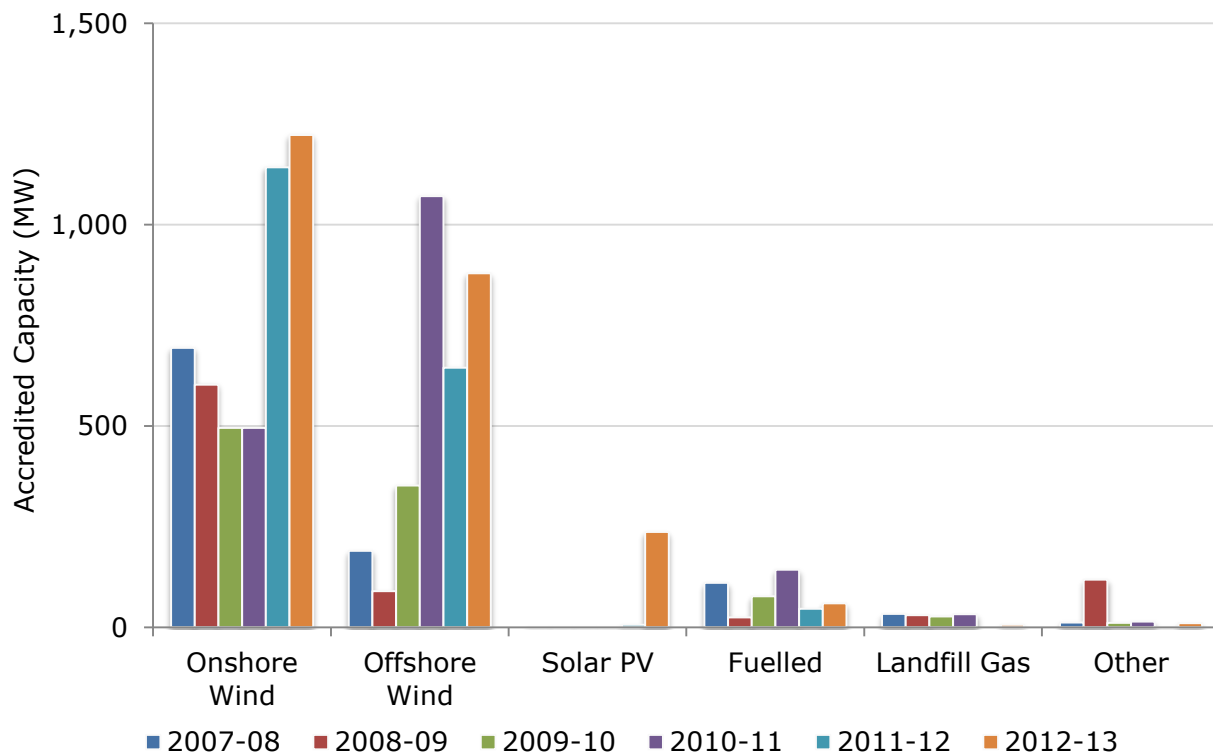
2.6 **Figure 2** shows the total number of stations whose accreditations have commenced since 1 April 2007. It also displays the cumulative total of stations accredited up to the end of the 2012-13 obligation period. The cumulative total does not include any stations that have transferred to the FIT scheme; almost all stations that remain accredited under the RO and ROS have a DNC of over 50 kW. The sharp increase in the total number of stations in the last quarter of 2012-13 is due to high volumes of microgenerator NIRO applications from agents based in Northern Ireland.

Figure 2: Number of generating stations with RO accreditations commencing since 2007-08



2.7 The proportion of different generation technologies under the RO has changed considerably since the scheme began. When it was first introduced, landfill gas made up a large proportion of accredited capacity. In recent years both offshore and onshore wind have seen the largest increases in accredited capacity, while 2012-13 also saw a notable increase in accredited solar PV capacity, explained more in 2.19. These trends are summarised in **Figure 3**.

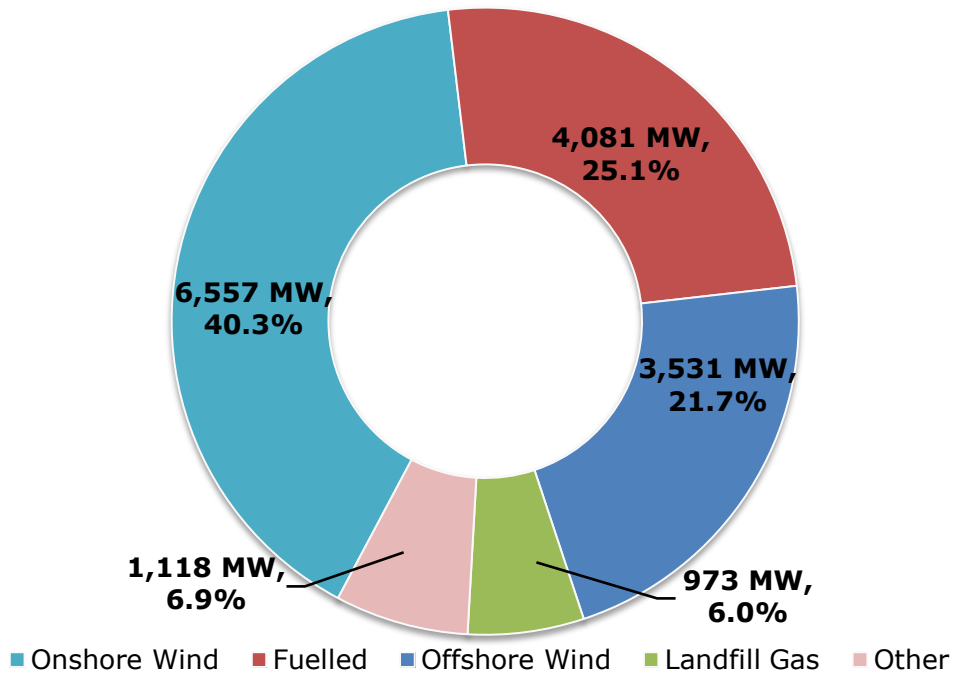
Figure 3: Total capacity accredited by generation technology and obligation period since 2007-08



Fuelled technology refers to stations generating from eligible biomass, bioliquid, energy crops or waste. 'Other' technologies are sewage gas, tidal stream, wave power and hydro.

2.8 Considering the total capacity of all stations whose accreditations commenced from the start of the RO on 1 April 2002 up until 31 March 2013; onshore wind, offshore wind and fuelled generators make up a considerable majority between them (87.1%) of the total capacity accredited under the scheme. This is shown in **Figure 4**.

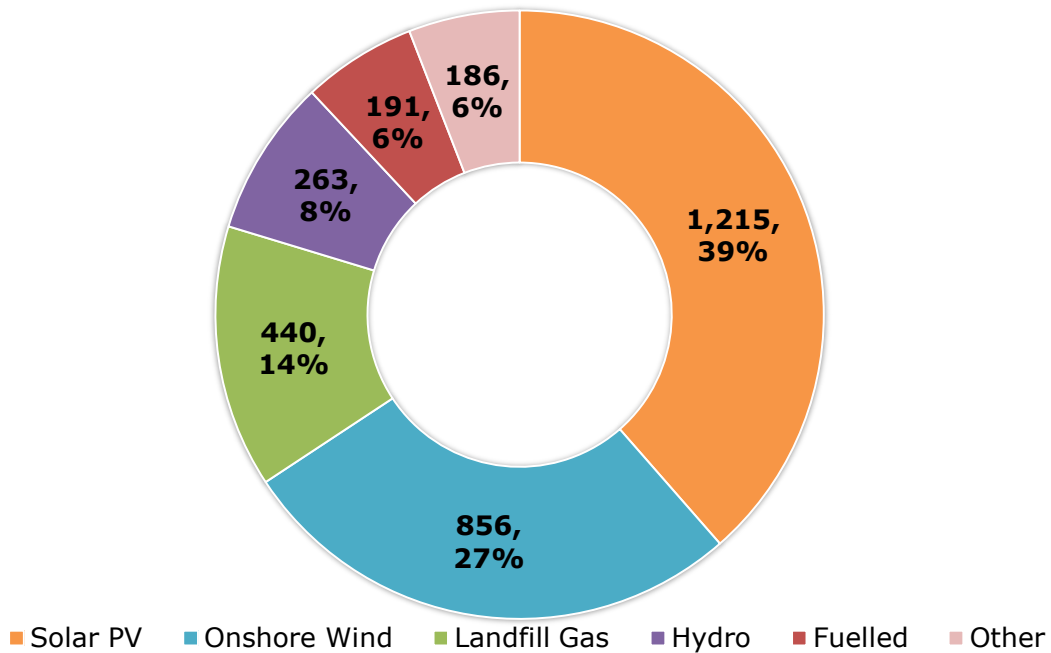
Figure 4: Capacity of generating stations by technology type accredited up to 31 March 2013



'Other' includes hydro (720 MW), solar PV (245 MW), sewage gas (149 MW), tidal stream and wave power (5 MW combined).

2.9 When considering the total number (3,151) of stations accredited under the scheme up until 31 March 2013, the spread by technology is more even than that by capacity. This is shown in **Figure 5**.

Figure 5: Number of generating stations by technology type accredited up to 31 March 2013

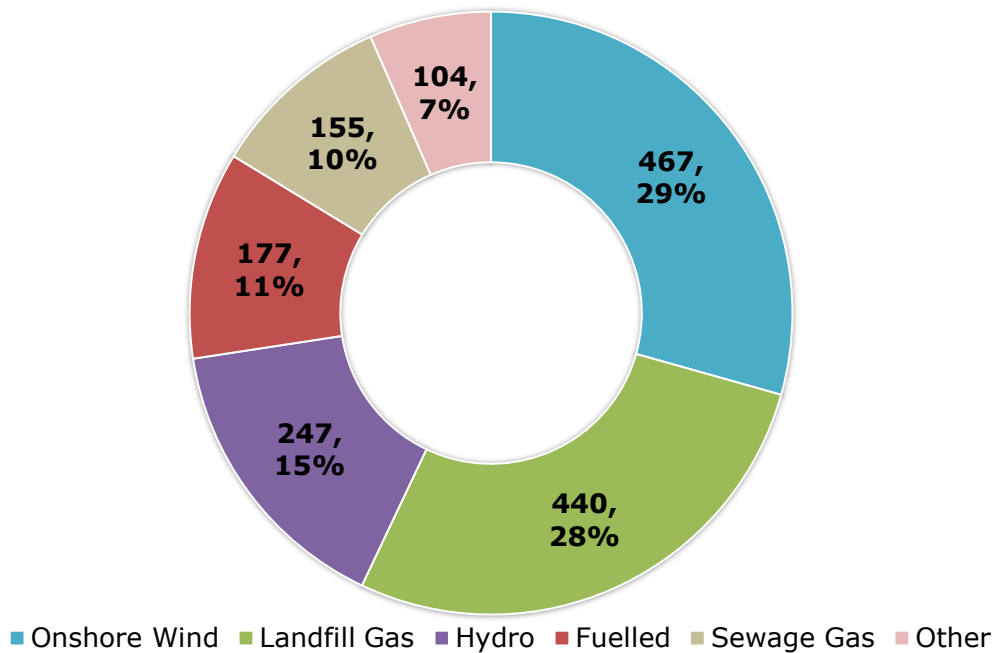


'Other' includes sewage gas (156), offshore wind (23), tidal stream (4) and wave power (3).

2.10 Just over half of the total stations accredited (1,590) comprise generators with a capacity of greater than 50 kW; the remainder (1,561) consist of microgenerators with a capacity of 50 kW or lower. The majority of microgenerators are solar PV (1,141) and onshore wind (389). This can be attributed to large numbers of domestic generators in Northern Ireland with capacities that rarely exceed 5 kW.

2.11 When considering only larger stations (>50 kW), onshore wind is currently the dominant technology by number of generators, overtaking landfill gas stations which were the most numerous at the end of 2011-12. **Figure 6** summarises the accredited stations less microgenerators.

Figure 6: Total number of generating stations by technology type accredited up to 31 March 2013 (stations >50 kW only)



'Other' includes solar PV (74), offshore wind (23), tidal stream (4) and wave power (3).

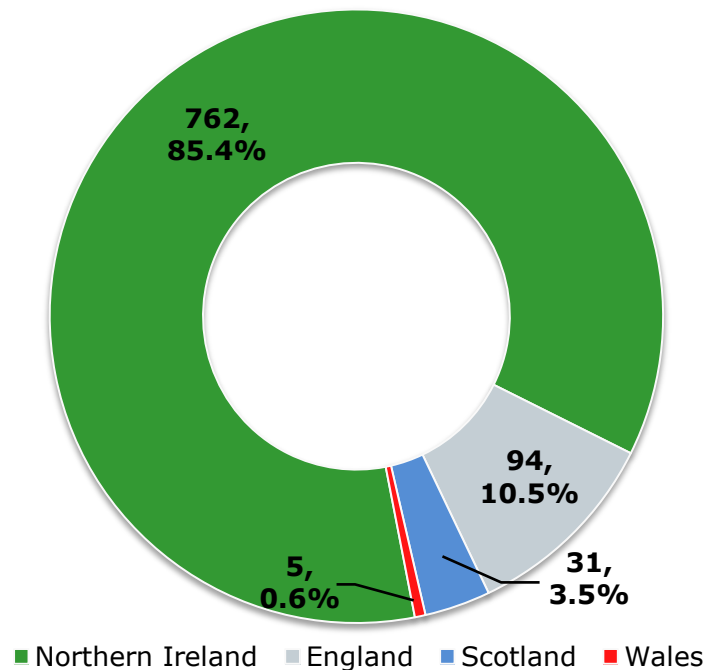
Generator accreditations during 2012-13

2.12 Ofgem accredited 892 generating stations during the 2012-13 obligation period. This represents a 243% increase from the 260 stations reported in the 2011-12 annual report, though it is lower than for years prior to the introduction of the FIT, as described in 2.3.

2.13 The total capacity of new stations accredited in the UK during 2012-13 was 2,413 MW. This represents a 66% increase on last year's figure of 1,454 MW.

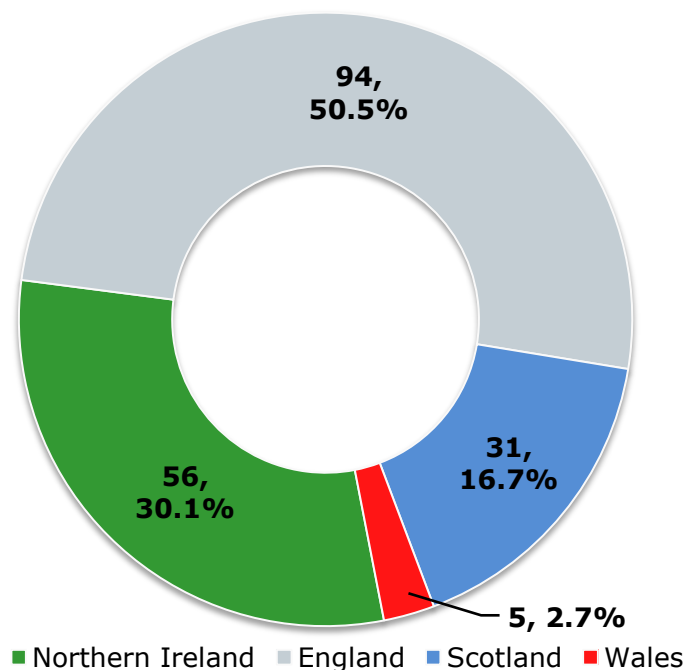
2.14 The lack of a FIT scheme in Northern Ireland means that an exceptionally high number of stations (predominantly microgenerators) were accredited there during 2012-13 compared to the rest of the UK, as shown in **Figure 7**.

Figure 7: Number of generating stations accredited during 2012-13 (including stations ≤50 kW)



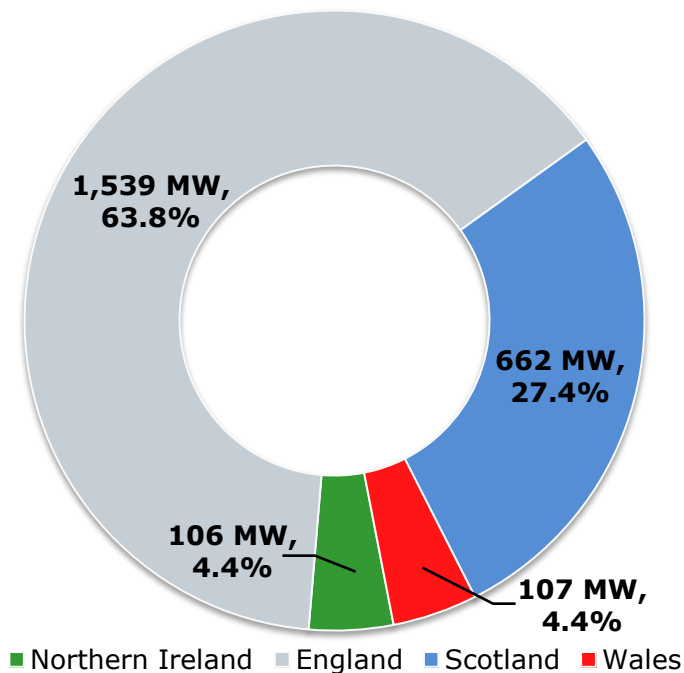
2.15 Of the 892 stations accredited in 2012-13, 706 were microgenerators, all of which were in Northern Ireland. These stations had a combined capacity of 3.7 MW, 0.2% of the total capacity accredited. **Figure 8** shows the effect of excluding these microgenerators from the respective totals in each country. This shows that the accreditation of larger generators was more evenly distributed throughout the UK.

Figure 8: Number of generating stations accredited during 2012-13 (excluding stations ≤50 kW)



2.16 **Figure 9** shows how the total accredited capacity of 2,413 MW was split between each country. As in 2011-12, the majority of new capacity was in England, as this was largely where newly-accredited offshore wind sites were located. Scotland continues to see the highest volume of onshore wind accreditations.

Figure 9: Total capacity (MW) of generators accredited during 2012-13



Generation technologies accredited in 2012-13

2.17 As in 2011-12, the technology type with the largest amount of capacity accredited was onshore wind with 1,222 MW. In 2012-13 the amount of new offshore wind capacity accredited rose to 879 MW from its 2011-12 total of 645 MW, although its peak year so far remains 2010-11 with 1,071 MW accredited. Together onshore and offshore wind accounted for 1,610 MW of the UK total of 2,413 MW accredited in 2012-13.

2.18 The two largest stations accredited in 2012-13 were both offshore wind farms - London Array at 630 MW and Lincs Wind Farm at 249 MW (indeed, the total accredited offshore capacity of 879 MW is entirely down to these two stations). The former is currently the largest offshore wind farm in the world. Of the 20 largest renewable generating stations accredited during 2012-13, 18 were either offshore or onshore wind generators. Accreditation was also granted to Wymeswold Solar Farm; at 26 MW this is currently the UK's largest solar PV station.

2.19 There were 747 solar PV stations accredited in 2012-13, around four times as many as any previous year. As might be expected, a large majority of these stations (690) were microgenerators in Northern Ireland; however there was also a spike in the number of large solar PV generators accredited in the final month of the obligation period, in March 2013. Indeed, 52 of the 57 large solar PV stations accredited in 2012-13 were accredited during that month. This was due to generators taking advantage of higher support levels (ROC bands): capacity accredited before 1 April 2013 receives 2 ROCs per MWh. Stations accredited during 2013-14, on the other hand, will receive 1.7 ROCs per MWh if they are building-mounted, and 1.6 ROCs per MWh if they are ground-mounted.

Capacity amendments in 2012-13

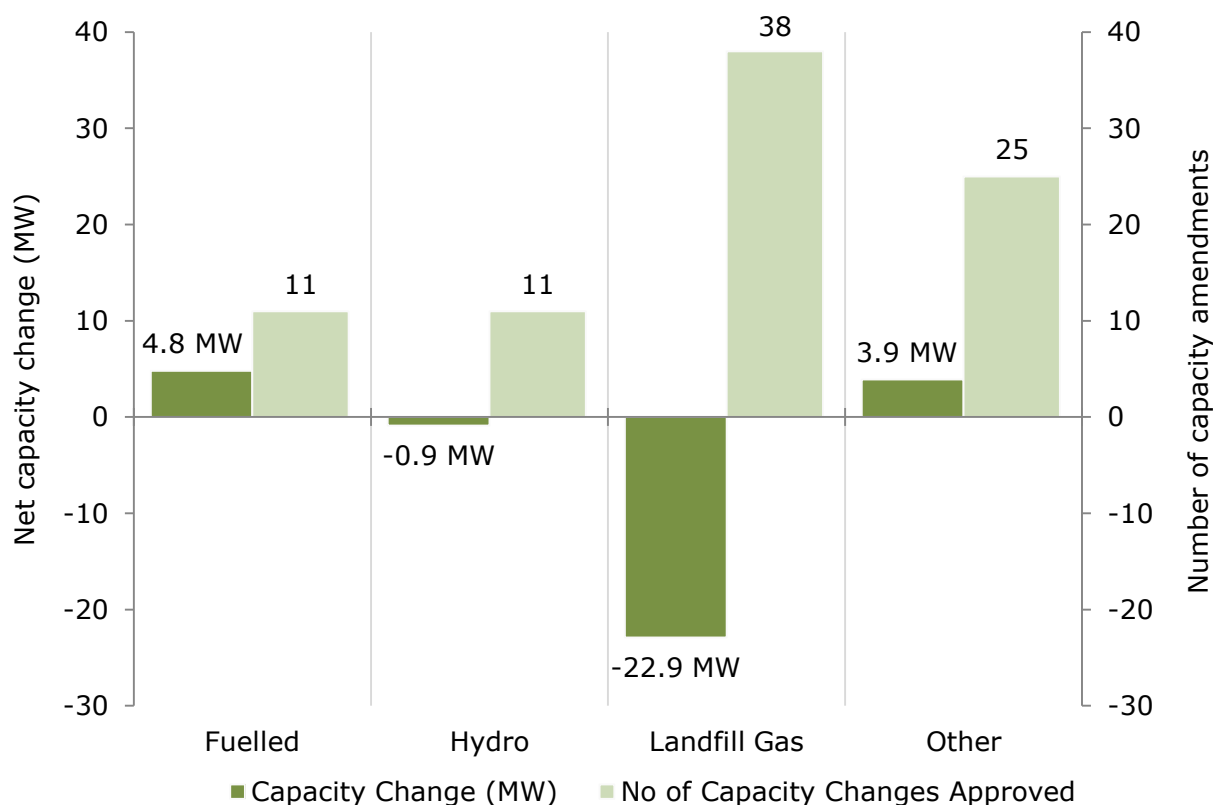
2.20 In addition to new accreditations, Ofgem also approves amendments requested by generators to previously approved applications. Some of these involve changes to the capacity of the generating station in question.

2.21 There were 85 amendments to generating capacity in 2012-13, 26 of which involved an increase in capacity, the remaining 59 a decrease. These amendments equated to a net capacity decrease of 14.9 MW for the amended stations. Below is a summary of the key capacity changes approved:

- Largest capacity increase at a station: Artfield Fell Wind Farm, Scotland (capacity extended from 19.5 MW to 27.6 MW – an increase of 8.1 MW)
- Largest capacity decrease at a station: Drumderg Wind Farm, Scotland (capacity reduced from 36.8 MW to 32 MW – a decrease of 4.8 MW)
- Generating technology with the largest net increase in capacity: Fuelled (4.8 MW)
- Generating technology with the largest net decrease in capacity: Landfill gas (22.9 MW).

2.22 **Figure 10** summarises, by technology group, the amendments to generating capacity during 2012-13. Further information on capacity amendments can be found in Appendix 2.

Figure 10: Number and net capacity change of amendments to accreditations in 2012-13 by generating technology



'Other' includes onshore wind, sewage gas and solar PV.

NFFO generating stations

2.23 Prior to the RO, the Non-Fossil Fuel Orders required the regional electricity companies to contract for certain amounts of generating capacity from renewable sources. These Orders are known as the Non-Fossil Fuel Orders (NFFO and Northern Ireland NFFO) and the Scottish Renewables Obligation (SRO)¹¹. Collectively known as the 'NFFO Orders' these set out specific eligibility requirements in respect of generating stations situated at locations where a NFFO contract exists¹².

2.24 No generating stations have been accredited which receive support under the NFFO Orders since the 2009-10 obligation period. This is attributed to the declining number of contracts that would be viable if commissioned under the scheme.

2.25 There is an annual reduction in the number of stations receiving support under the NFFO Orders. This is because the NFFO contracts have either come to an end or have been terminated on economic grounds.

¹¹ The Electricity (Non-Fossil Fuel Sources) (England and Wales) Order 1994, the Electricity (Non-Fossil Fuel Sources) (Northern Ireland) Order 1996 and the Electricity (Non-Fossil Fuel Sources) (Scotland) Order 1994 and subsequent orders.

¹² Articles 20 and 21 of the RO and ROS and Articles 19 and 20 of the NIRO contain further details.

2.26 As at 31 March 2013, 145 generating stations remained accredited under NFFO arrangements across the UK. NFFO generating stations in England and Wales represented 2.5% of the total accredited RO capacity within the UK. Similarly, SRO and NI NFFO generating stations represented 0.4% and 0.1%, respectively, of total UK accredited capacity. These figures reflect the revised methodology introduced last year for determining fuelled station capacities, as noted in 2.4. Further information on NFFO stations accredited under the RO Orders can be found in Appendix 2.

3. ROC issue and trends in generation

Chapter Summary

This chapter, along with Appendix 3, provides a summary of the ROCs issued to generating stations and the associated electricity generation. In 2012-13 we issued 44.3 million ROCs corresponding to 35 TWh of renewable generation, 11.2% of the total electricity supplied in the UK. Of renewable technologies, offshore wind was issued the most ROCs, while onshore wind generated the most electricity.

3.1 The Authority is required to issue ROCs to operators of accredited stations that have generated electricity from eligible renewable sources. ROCs are electronic certificates that are issued directly into a generator's account on the Renewables and CHP Register. ROCs may only be issued where all necessary eligibility criteria have been met and are issued only on the *renewable* output of the accredited station in question.

3.2 We cannot issue ROCs before the end of the second month after the month of generation. So for example, ROCs for generation in January will not be issued before the end of March. This timeframe reflects the deadline for the provision of gross output, input electricity data and any supporting information that operators of generating stations are required to provide to us.

3.3 The introduction of banding in April 2009 resulted in different support levels for different renewable technologies. This means that one ROC no longer necessarily represents one MWh of renewable generation for stations accredited after 11 July 2006¹³.

¹³ Article 27 of the RO and ROS Orders and Article 25 of the NIRO refer.

Historical trends in ROCs issued

3.4 **Figure 11** illustrates the total ROCs issued, and the associated renewable generation, in each country for the past five obligation periods¹⁴. Since the introduction of banding in 2009-10, more than one ROC has been issued, on average, per MWh of renewable electricity produced. The total number of ROCs issued in the UK and the corresponding generation represented by those ROCs has diverged ever since. This is shown in **Table 1**.

Figure 11: Total ROCs issued and corresponding generation since 2007-08

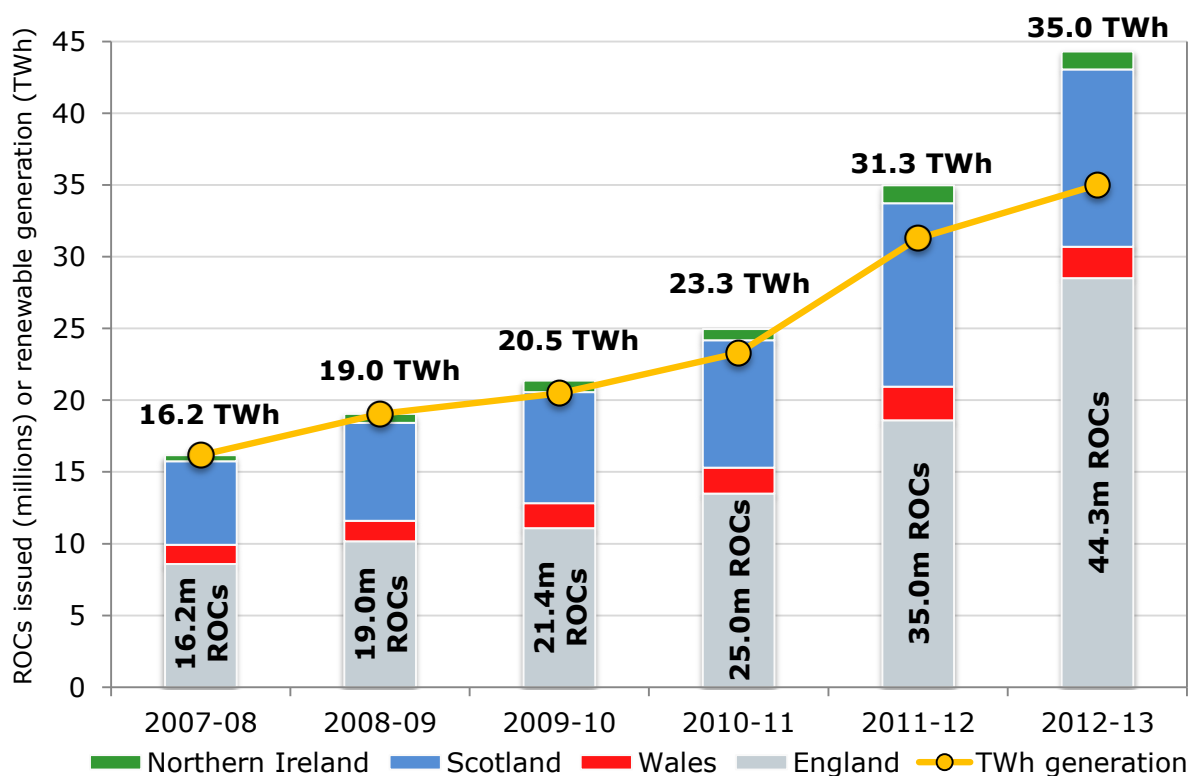


Table 1: Average ROCs issued per MWh of generation since the introduction of banding

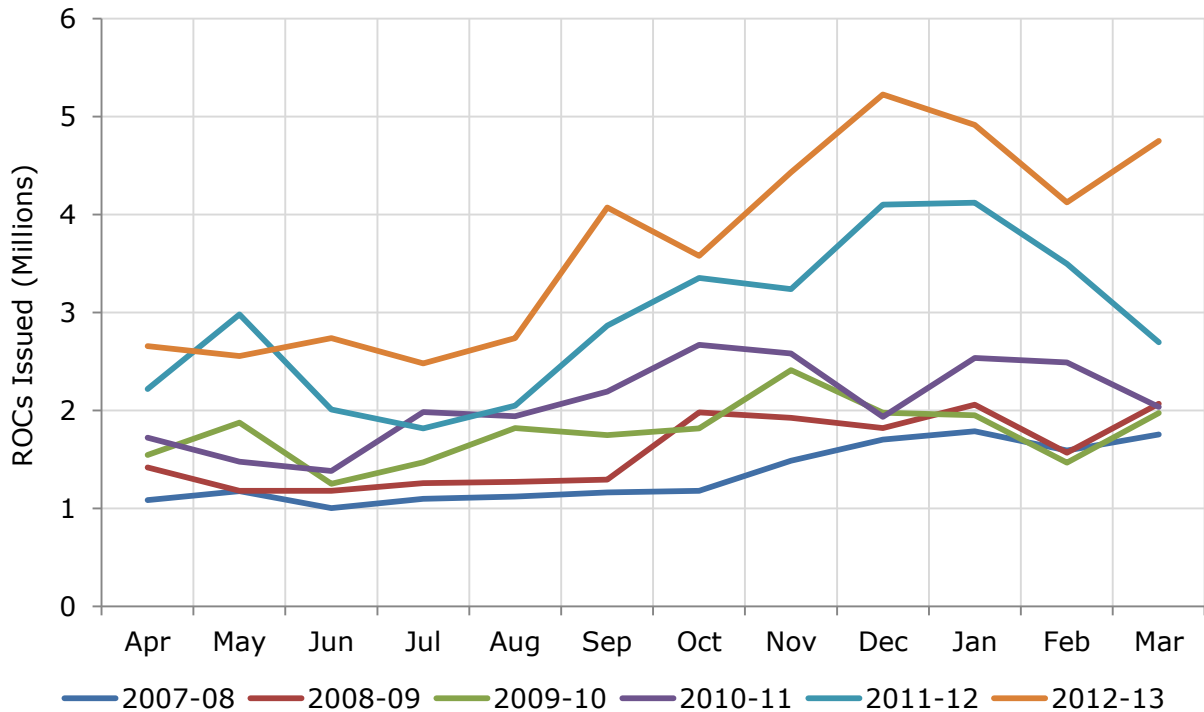
Obligation Period	Average ROCs Issued/MWh of Generation
2009-10	1.04
2010-11	1.07
2011-12	1.12
2012-13	1.27

3.5 ROCs are usually issued to renewable generators on a monthly basis. Although the general trend is for more ROCs to be issued for the winter months, there are occasions when this trend is reversed, for example when there is a low wind yield or rainfall in a particular winter month. **Figure 12** demonstrates the trend in the total number of ROCs issued monthly since the 2007-08 obligation period. This further demonstrates the increase in rate of growth

¹⁴ For total ROCs issued prior to 2007 see relevant RO Annual Reports on the Ofgem website.

of the scheme since 2010-11, as in Figure 11, and clearly shows the seasonal variation in issuance of ROCs.

Figure 12: Total monthly issue of ROCs since 2007-08



3.6 **Figures 13 and 14** break this down further to compare the number of ROCs issued for each month by generation technology since 2007-08. For clarity, ROCs issued to onshore wind, offshore wind and fuelled stations are shown in Figure 13 due to the higher monthly volumes they receive compared with hydro, landfill gas and sewage gas, which are shown in Figure 14. Here the seasonal variations are clearly visible with respect to hydro, offshore and onshore wind, along with a noticeable increase in the number of ROCs issued to fuelled stations in the last two obligation periods. Conversely, the numbers of ROCs issued to landfill and sewage gas generators have remained fairly steady over the last six years.

Figure 13: Monthly issue of ROCs since 2007-08 by generation technology (fuelled, offshore and onshore wind)

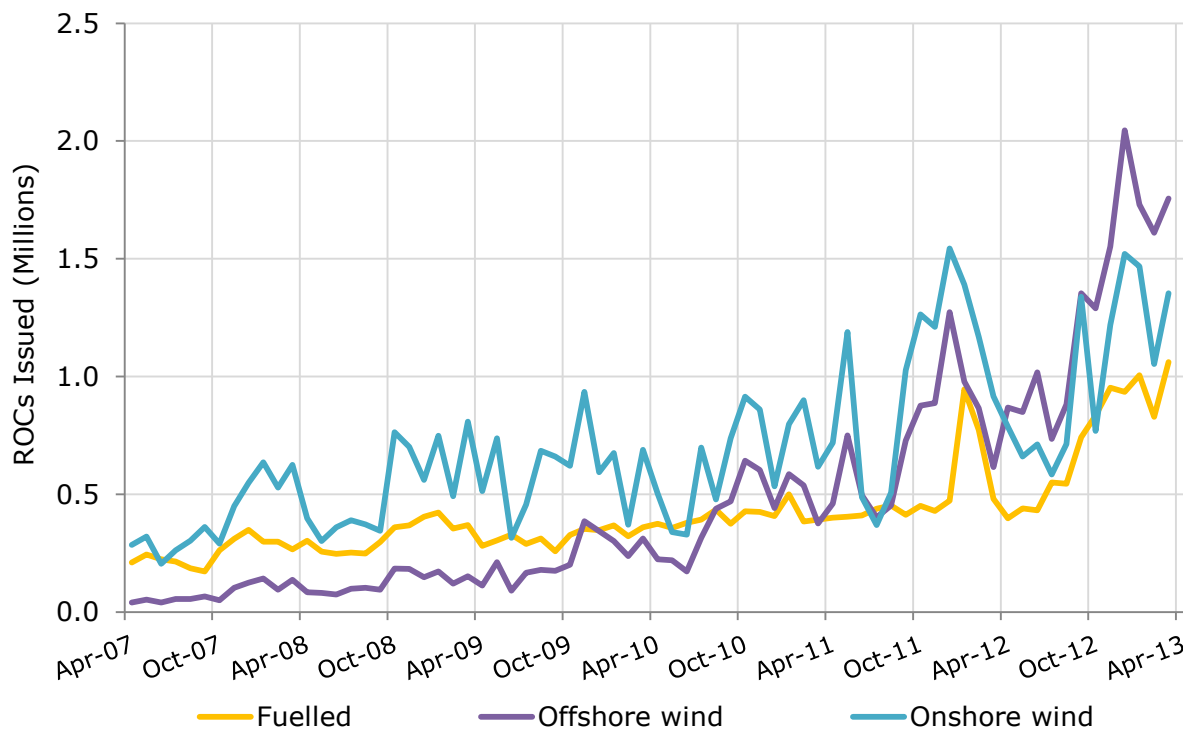
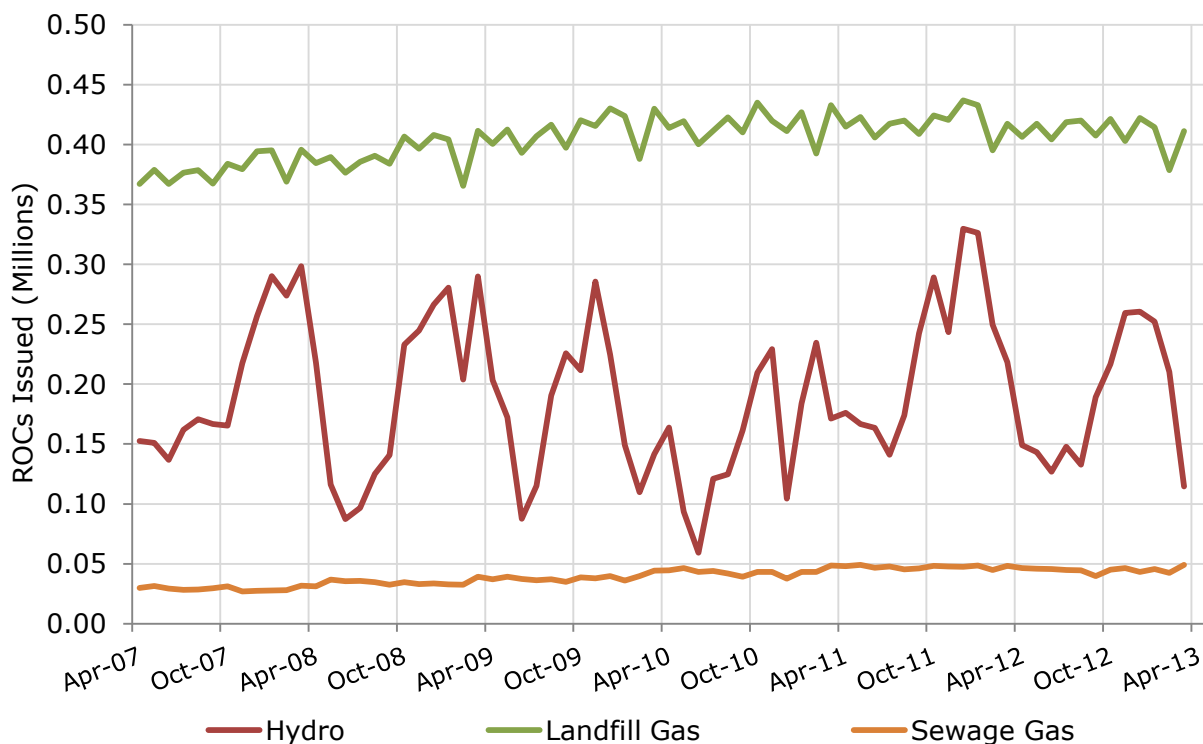
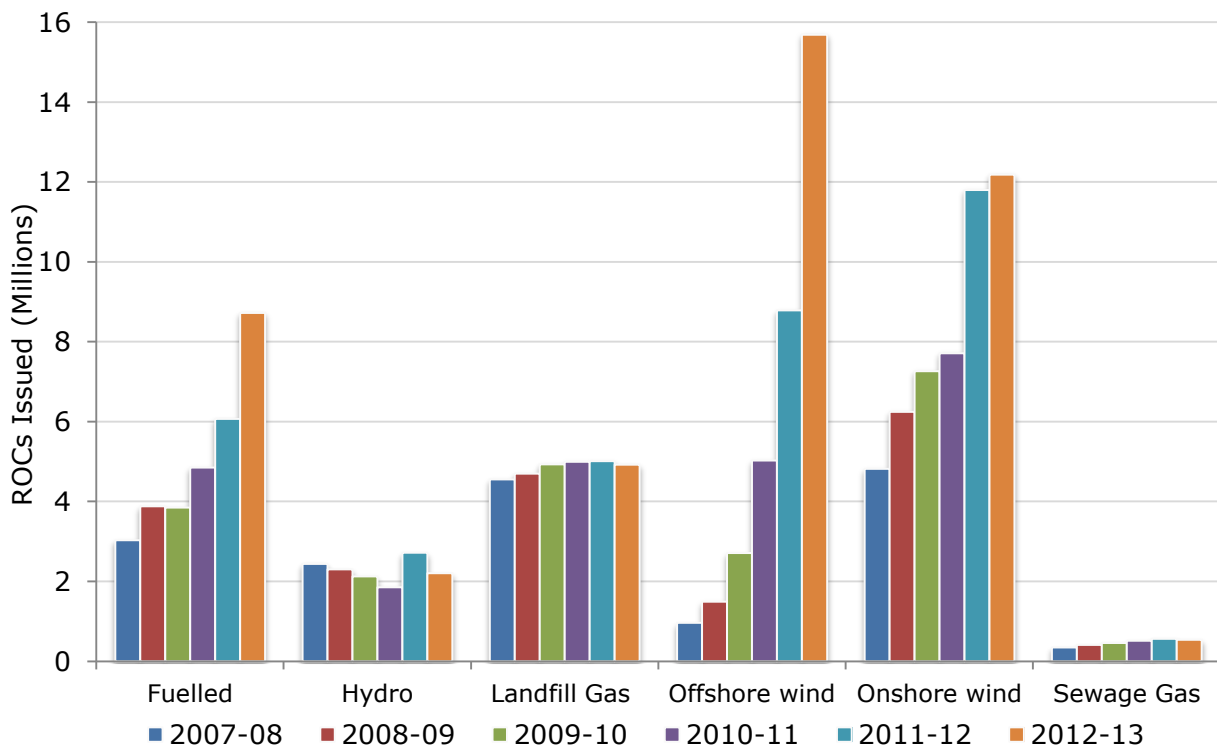


Figure 14: Monthly issue of ROCs since 2007-08 by generation technology (hydro, landfill and sewage gas)



3.7 **Figure 15** groups technology types together and shows how the number of ROCs issued to each has varied over the last six obligation periods. A point of interest from this chart is the near doubling of ROCs issued to offshore wind from 2011-12 to 2012-13, with only a marginal increase for onshore wind. This is despite over 1,000 MW of new onshore wind capacity being accredited in 2011-12, compared with 645 MW for offshore wind (see Figure 3). Even allowing for the fact that offshore wind stations generally receive 2 ROCs per MWh compared with 1 ROC per MWh for onshore wind, less disparity might have been expected between the two. The respective average load factors for the technologies offer an explanation however; onshore wind fell from 28% in 2011-12 to 23.7% in 2012-13. The average load factor for offshore wind, on the other hand, rose from 31.6% to 33%.

Figure 15: Annual issue of ROCs by generation technology since 2007-08



Solar PV, tidal flow and wave power are not included in Figures 13, 14 and 15 due to the small number of ROCs issued to these technologies (collectively around 63,000 out of a total of approximately 161 million over the last six years).

ROC issue and generation in 2012-13

3.8 **Table 2** shows the number of ROCs issued in each country in the UK in 2012-13, the total renewable generation represented by these ROCs and the most prominent technologies, in terms of generation and ROCs issued. In total 44.3 million ROCs were issued in 2012-13, representing 35 TWh of renewable generation. The number of ROCs issued increased 27% from 34.8 million in 2011-12, while renewable generation increased by approximately 13%, from 31 TWh.

3.9 As explained over the following pages, the higher percentage increase in ROCs issued compared with generation is mainly due to large numbers of ROCs being issued to offshore wind and fuelled stations at greater than 1 ROC per MWh.

Table 2: ROCs issued and generation across the UK in 2012-13

England	Wales	Scotland	Northern Ireland
ROCs issued			
28,517,067	2,188,241	12,350,963	1,242,448
Renewable generation (MWh)			
20,605,028	1,941,645	11,317,519	1,142,759
Technology with the highest generation/issued the most ROCs			
Offshore wind	Onshore wind	Onshore wind	Onshore wind
14,108,334 ROCs	904,627 ROCs	7,637,077 ROCs	1,064,391 ROCs
7,786,791 MWh	904,627 MWh	7,637,077 MWh	1,025,395 MWh

Totals	
ROCs issued	Renewable generation
44,298,719	35,006,951 MWh

Small onshore wind stations (lower than 250 kW in capacity) in Northern Ireland receive 4 ROCs per MWh. Hence the number of ROCs issued was higher than the figure for generation in MWh. In Scotland and Wales, the numbers are identical as all onshore wind stations in those countries received 1 ROC per MWh.

3.10 The percentage of total supply in the UK from renewable generation accredited under the RO surpassed 10% for the first time in 2011-12. The proportion of total supply (314 TWh – see also **Table 3**) from renewable generation increased further in 2012-13, to 11.2%. When including the 1.7 TWh generated by installations registered under the FIT¹⁵, the renewable generation figure rises to 36.7 TWh or 11.7% of total supply.

3.11 Of the 44.3 million ROCs issued in the UK in 2012-13, generators in England received 64.4%, Scotland 27.9%, Wales 4.9% and Northern Ireland 2.8%. England's percentage share increased from the 53.3% reported in last year's annual report, whereas each other country's share fell.

3.12 However when considering renewable electricity generated in 2012-13, England's proportion is reduced to 58.9% with every other country's share rising compared with ROCs issued (Scotland 32.3%, Wales 5.5% and Northern Ireland 3.3%). England's higher share of the ROCs issued relative to generation can partly be explained with reference to Table 2; the dominant technology in England is offshore wind for which most stations receive 2 ROCs per MWh. In the other countries the dominant technology is onshore wind which generally receives 1 ROC per MWh. Several large fuelled generators receiving high numbers of dedicated biomass ROCs at 1.5 ROCs per MWh were also located in England.

3.13 Compared with the figures reported in 2011-12, England was the only country in which the number of ROCs issued and the amount of generation both increased. In Scotland and Wales, the numbers for both ROC issue and generation fell. In Northern Ireland the number of

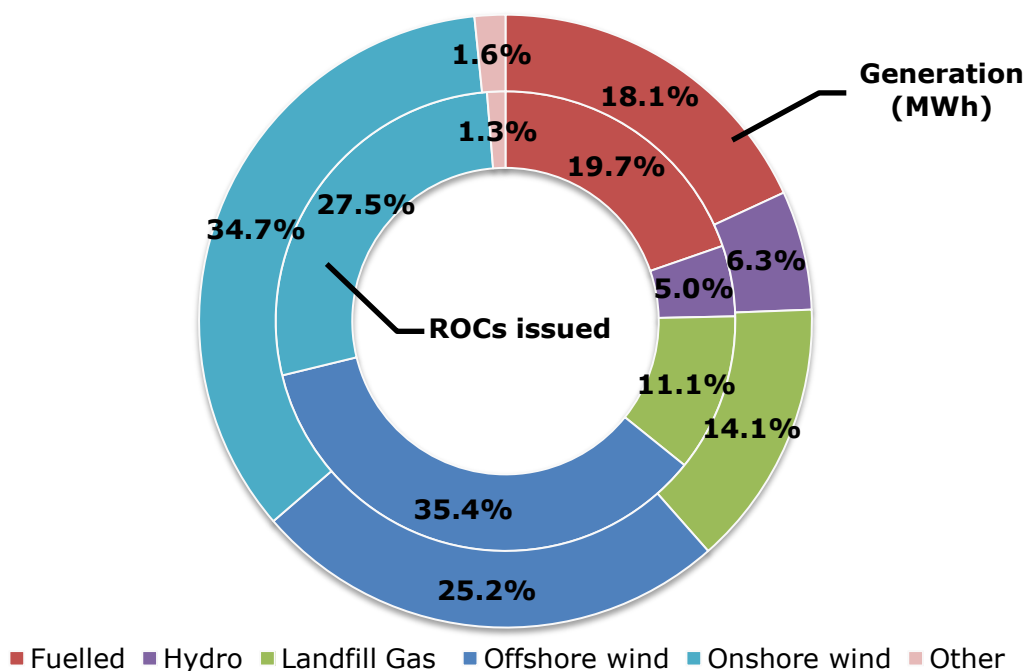
¹⁵ FIT annual report at <https://www.ofgem.gov.uk/publications-and-updates/feed-tariff-fit-annual-report-2012-2013>

ROCs issued remained approximately the same despite the amount of generation falling. This is due to the fact that 7.2% of the ROCs issued in Northern Ireland were to fuelled stations, a proportion that rose from 2.2% last year. However these stations only represented 3.2% of the generation in Northern Ireland, since they all received more than 1 ROC per MWh. See **Figure 20** for the breakdown of generation and ROCs issued in Northern Ireland by technology type.

3.14 Across the UK as a whole, in 2012-13 offshore wind overtook onshore wind as the dominant technology type in terms of its share of ROCs issued. Compared with the figures reported for 2011-12, offshore wind's share of the ROCs issued increased from 25.3% to 35.4%, with the number of ROCs issued to offshore stations rising significantly, from 8.8 to 15.7 million. However, onshore wind is still the dominant technology in terms of *electricity output* – generating 12.1 TWh; 34.7% of the total UK renewable generation.

3.15 This year represents the first time that the dominant technology in terms of ROCs issued is not also the dominant technology in terms of generation. Hence the following charts (**Figures 16 to 20**) display the share of both the ROCs issued and generation for each technology type across the countries of the UK. Firstly the UK as a whole is summarised in Figure 16.

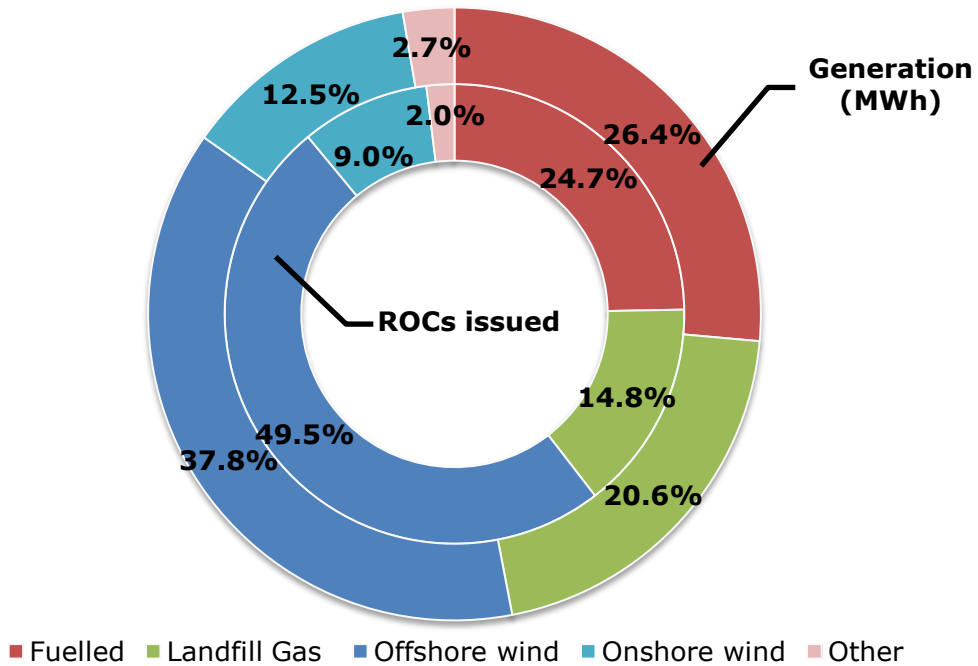
Figure 16: ROCs issued and generation by technology type in 2012-13 (UK-wide)



'Other' includes sewage gas, solar PV, tidal power and wave power.

3.16 Most of the UK's offshore wind stations are located in England. Of the UK total of 8.8 TWh generated by offshore wind in 2012-13, 7.8 TWh came from stations in England. Similarly, 14.1 million of the 15.7 million UK ROCs issued to offshore wind were to stations in England. In 2011-12 offshore wind's share of ROCs issued in England was 38.2%; in 2012-13 it was nearly 50%. As such the percentage share for every other technology fell in 2012-13, other than fuelled stations which saw a slight increase. The proportions of generation and ROC issue for England are shown in Figure 17.

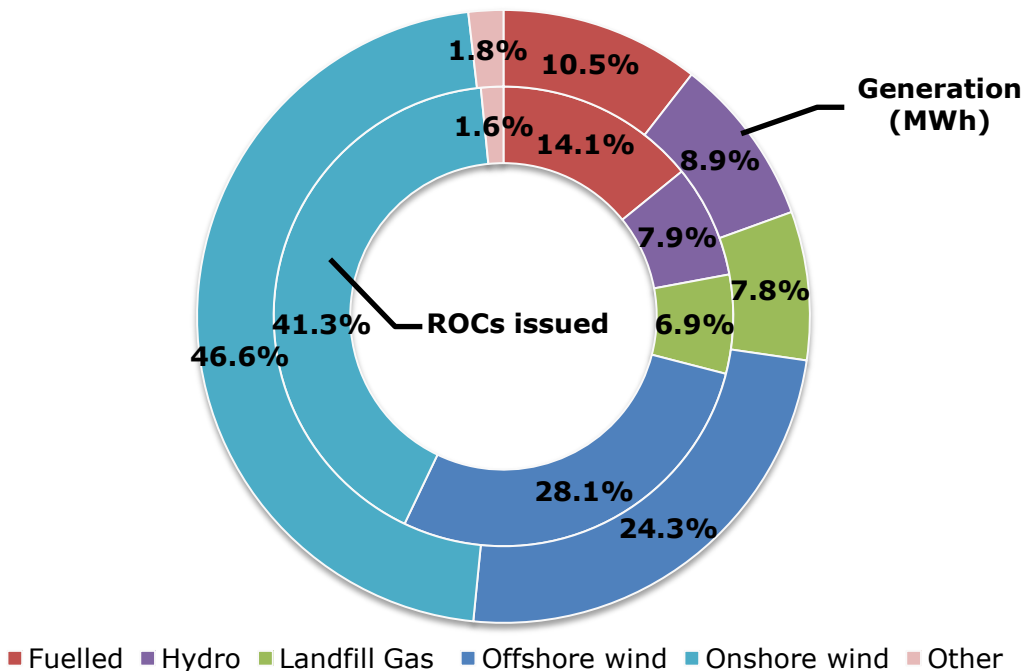
Figure 17: ROCs issued and generation by technology type in 2012-13 (England)



'Other' includes hydro, sewage gas and solar PV.

3.17 Onshore wind is the dominant technology in Wales, with over 40% of the ROCs issued and renewable generation. It also has the second-largest proportion of offshore wind (after England) and hydro (after Scotland). The technology split in Wales is summarised in Figure 18.

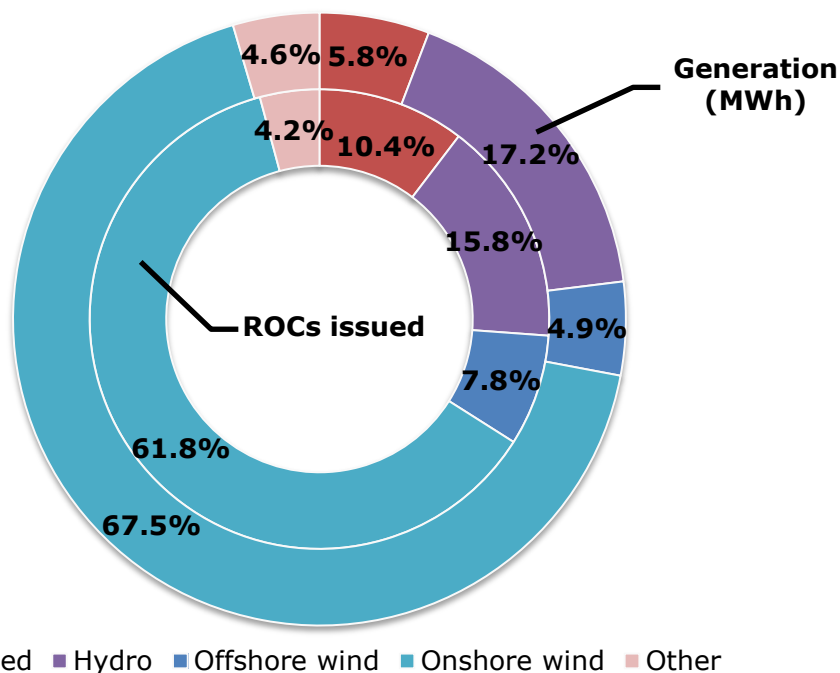
Figure 18: ROCs issued and generation by technology type in 2012-13 (Wales)



'Other' includes sewage gas and solar PV.

3.18 The share of renewable generation and ROCs issued in Scotland are summarised in Figure 19. Onshore wind is by the far the dominant technology type both in terms of ROCs issued and generation; indeed over half of the UK totals for onshore wind can be attributed to Scotland (7.6 million of the 12.2 million UK ROCs and 7.6 of the 12.1 TWh). The vast majority of UK hydro generation and ROC issue was in Scotland (over 88% in both respects).

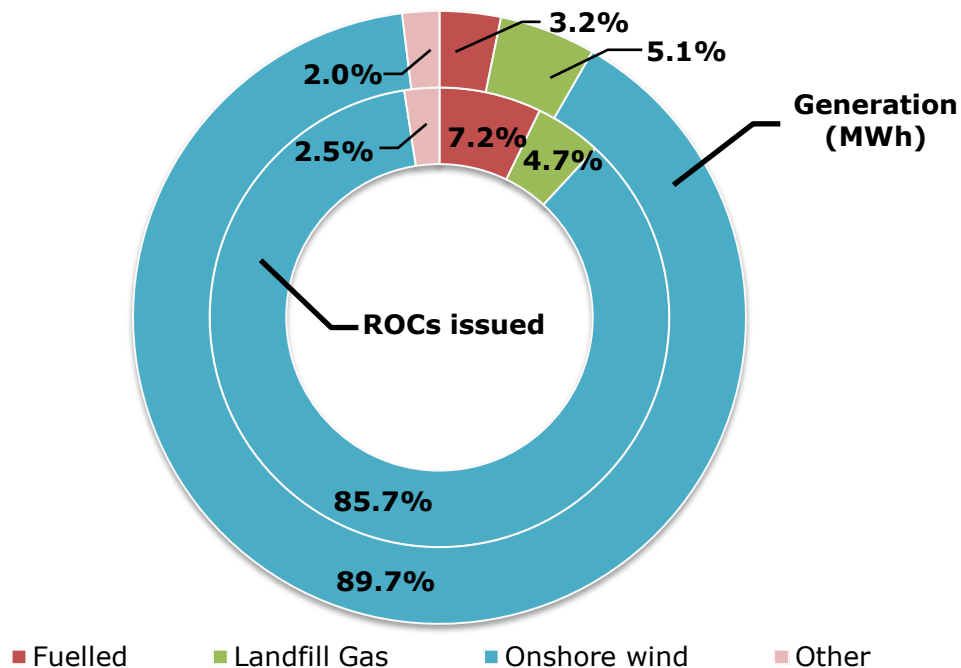
Figure 19: ROCs issued and generation by technology type in 2012-13 (Scotland)



'Other' includes landfill gas, sewage gas, solar PV, tidal power and wave power.

3.19 The vast majority of renewable generation and ROC issue in Northern Ireland in 2012-13 were from onshore wind, with the numbers associated with other technologies minor by comparison. The share of ROCs issued to fuelled stations did see an increase from 2011-12 however, from 2.2% to 7.2%.

Figure 20: ROCs issued and generation by technology type in 2012-13 (Northern Ireland)



'Other' includes hydro, offshore wind, solar PV and tidal power.

ROC revocation

3.20 Where a ROC has yet to be presented for compliance purposes, the Orders allow us to revoke that ROC under certain circumstances. These might include, for example, cases in which we have reasonable doubt as to the accuracy or reliability of the information on which ROC issue was based. Such doubts may arise from the findings of formal audits of generators (see Chapter 6).

3.21 The number of ROCs revoked by us tends to be minimal relative to the total volume of ROCs issued. In total 5,332 ROCs were revoked in relation to the 2012-13 obligation period, a decrease of around 15,000 from the total revoked in 2011-12 (itself a fall of around 14,000 from 2010-11). Further detail on revoked ROCs can be found in Appendix 3.

Retired ROCs

3.22 The owner of a ROC may at any time voluntarily retire it on the Register. The retirement of a ROC renders it unusable for compliance with the RO.

3.23 A total of 22,709 ROCs issued for the 2012-13 obligation period were retired. This is a significant increase from the 1,045 ROCs retired in 2011-12, though the vast majority of these were retired by one supplier.

Emissions abated due to the scheme

3.24 As can be seen in this report, the number of accredited stations, amount of renewable generation, the total obligation and value of the scheme have all grown considerably since the introduction of the RO in 2002. Correspondingly there has also been an increase in the amount of greenhouse gas emissions saved that can be attributed to generation under the scheme.

3.25 The Department for Environment, Food and Rural Affairs (Defra) publishes conversion factors for greenhouse gas reporting on its website¹⁶. In the case of UK electricity, these are given as an equivalent mass of carbon dioxide per kilowatt-hour (kgCO_{2e}/kWh) and are available both for generation and transmission & distribution. From this, a figure for the amount of GHG emissions saved from renewable generation under the scheme can be reached.

3.26 The GHG conversion factor for 2012-13 is assumed to be 0.493 kgCO_{2e}/kWh¹⁷, which when applied to the 35 TWh of renewable generation gives an approximate saving of GHG emissions for the year of 17.3 million tonnes.

3.27 This figure is not directly comparable with those quoted in previous annual reports for two reasons. Firstly the above figures take into account emissions of methane (CH₄) and nitrous oxide (N₂O) as well as CO₂, whereas only the latter has been considered previously. Secondly, Defra has recently changed its methodology to use average emissions factors for specific years rather than five-year rolling averages as it used previously.

3.28 Further information on the cost of emissions abatement, derived from the value of the scheme, is given in Chapter 5.

¹⁶ <http://www.ukconversionfactorscarbonsmart.co.uk/LandingPage.aspx>

¹⁷ This figure was reached by adding the generation and transmission & distribution factors to reach overall values for UK electricity in 2012 and 2013 of 0.49636 and 0.48357 kgCO_{2e}/kWh respectively. A value for the 12-13 obligation period was then reached by adding 75% of the 2012 value to 25% of the 2013 value.

4. Biomass sustainability

Chapter Summary

Under the provisions of the RO, generating stations using biomass fuels are required to submit sustainability information to Ofgem. This chapter summarises the data submitted to us for generation in 2012-13.

4.1 Generating stations using biomass fuel and fossil-derived bioliquids are required to provide certain information to Ofgem in respect of sustainability.

4.2 Every month operators report against sustainability criteria, which consider the land from which the biomass was sourced and the life-cycle greenhouse gas (GHG) emissions associated with the biomass. The reporting requirements differ depending on the fuel state and in some cases the declared net capacity (DNC) of the generating station:

- All operators using bioliquid fuels are required to report against sustainability criteria. No ROCs are issued for electricity where the operator has reported that the criteria have not been met or the information is unknown. This information must be independently verified annually.
- Operators of generating stations using solid biomass and biogas are only required to report against the criteria for generating stations which have a DNC greater than 50 kW. The sustainability criteria for solid biomass and biogas do not link to ROC issue, therefore regardless of whether the operator reports the criteria have been met, ROCs are issued. No annual verification is required.

4.3 In addition to this, all operators of generating stations with a DNC greater than 50 kW are required to provide additional information, annually, on the sustainability of their biomass. This is known as annual profiling data. This consists of information such as biomass type, mass/volume and country of origin.

4.4 Information received from operators in regard to sustainability is provided as a separate dataset published on our website¹⁸.

Data considerations

4.5 The figures reported in this chapter and in the accompanying sustainability dataset are based on information reported to us by participants. The Orders¹⁹ state that the required information must be provided to the best of an operator's knowledge and belief. This includes the annual profiling data as well as the monthly information reported against the land and GHG criteria for solid biomass and biogas²⁰.

4.6 As operators of generating stations using bioliquids are subject to an annual sustainability audit, the information provided by them in respect of the sustainability criteria has been independently verified.

¹⁸ <https://www.ofgem.gov.uk/publications-and-updates/biomass-sustainability-dataset-2012-13>

¹⁹ Article 54 of the RO and ROS 2009 Orders (as amended) and Article 46 of the NIRO 2009 Order (as amended) refer

²⁰ Ofgem has reviewed this data to ensure questions were answered as required by legislation, but they have not been verified.

4.7 In some cases bioliquid sustainability information relating to these audit reports is yet to be finalised and is subject to change. Data from stations that have not provided a bioliquid audit report for 2012-13, to support their reported sustainability information, is included in this chapter and the accompanying dataset.

4.8 Information reported in this chapter and in the accompanying dataset is from stations that are accredited. Any data reported by operators of generating stations that were pending accreditation and had not been issued ROCs that were claimed in 2012-13, as of the date of publication of this report, has not been included in the dataset.

4.9 Operators using biomass that is waste or wholly-derived from waste are exempt from the requirement to report annual profiling data. As a result, the information presented in this chapter, relevant to the annual profiling data, is not representative of all biomass used in the obligation period. Where data has been obtained from monthly-reported data it is reflective of all biomass used.

4.10 Where an operator using solid and gaseous biomass to generate electricity has reported 'unknown', or that the sustainability criteria have not been met, they must provide a reason for this. These comments are presented in the accompanying sustainability dataset. If comments have been provided by operators, even where not required, these have been retained in the dataset.

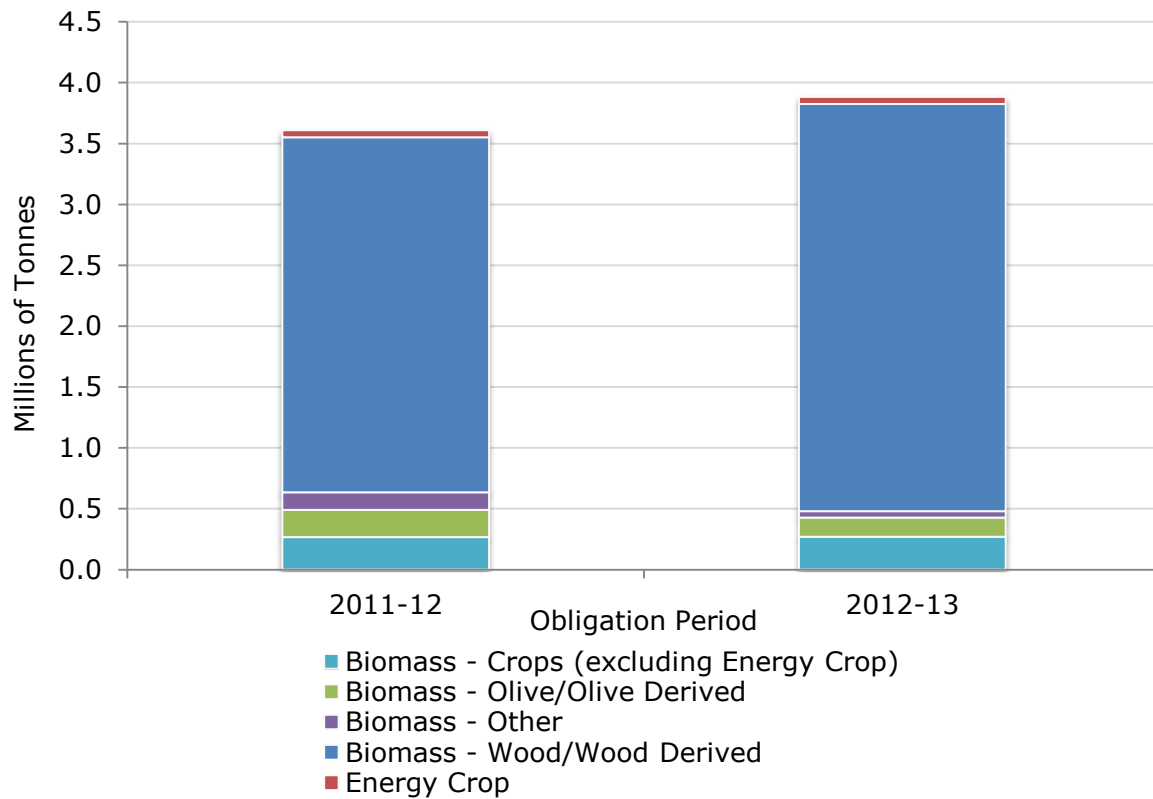
Overview of sustainability information received (annual profiling data)

4.11 As outlined in 4.9, operators using biomass that is waste or wholly-derived from waste are exempt from the requirement to report annual profiling data.

4.12 A review of the annual profiling data indicated that there had been a significant rise in the quantity of bioliquid used to generate electricity. This increased from 27.2 million litres in 2011-12 to 60.7 million litres in 2012-13, a rise of 223%. This was a result of the conversion of Tilbury Power Station to fire 100% biomass which included a significant quantity of bioliquid.

4.13 The total quantity of solid biomass used has also increased, from 3.6 million tonnes in 2011-12 to 3.9 million tonnes (reported by 23 generating stations) in 2012-13. The increase was largely seen in the use of wood/wood-derived biomass (2.9 million tonnes in 2011-12 compared to 3.3 million tonnes reported by 19 generating stations in 2012-13, an increase of 14.8%). This is summarised in **Figure 21**. The category 'Biomass – Crops' in Figure 21 includes barley, oat (including oat derivatives) and straw. The usage of this category remained similar to that in 2011-12. Refer to the accompanying dataset to this chapter for full details on all solid biomass types reported.

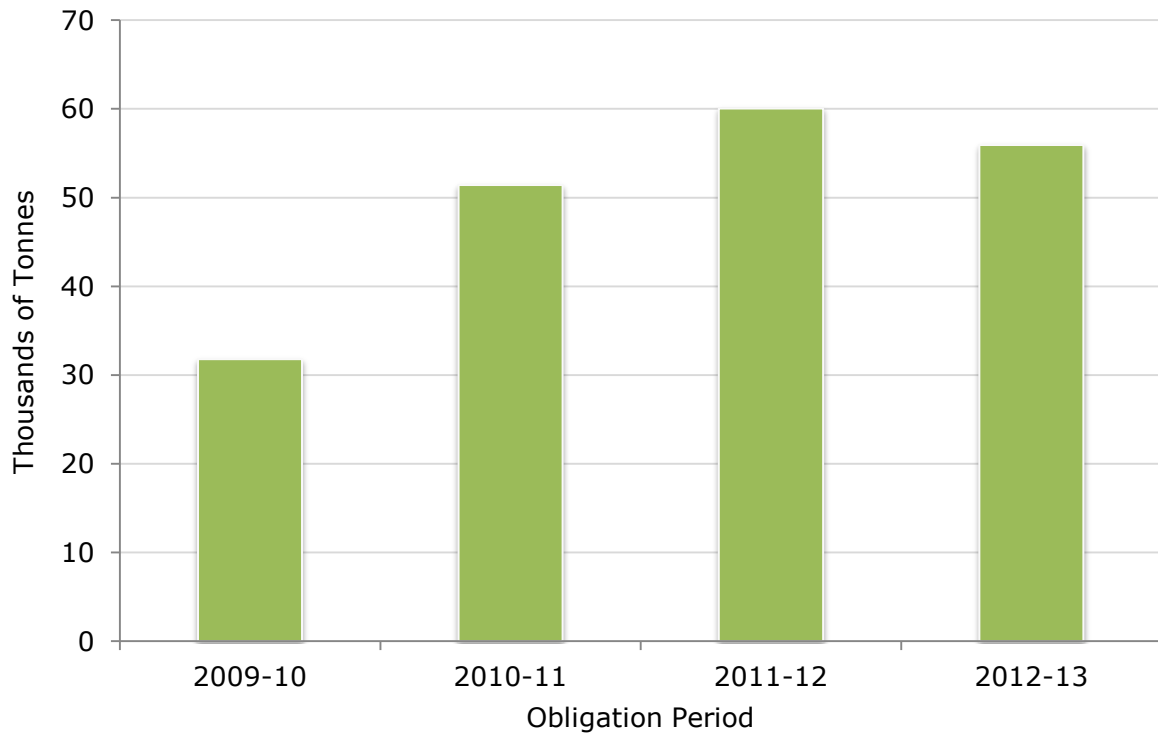
Figure 21: Tonnes of solid biomass and solid energy crop combusted, by obligation period



'Biomass - Other' includes peanut/peanut-derived, lignobond, palm kernel expeller, sunflower/sunflower-derived and shea.

4.14 Energy crop use increased from 2009-10 until 2011-12, when total usage peaked at 60,054 tonnes. In 2012-13, usage decreased by 7% compared with 2011-12. This is shown in **Figure 22**.

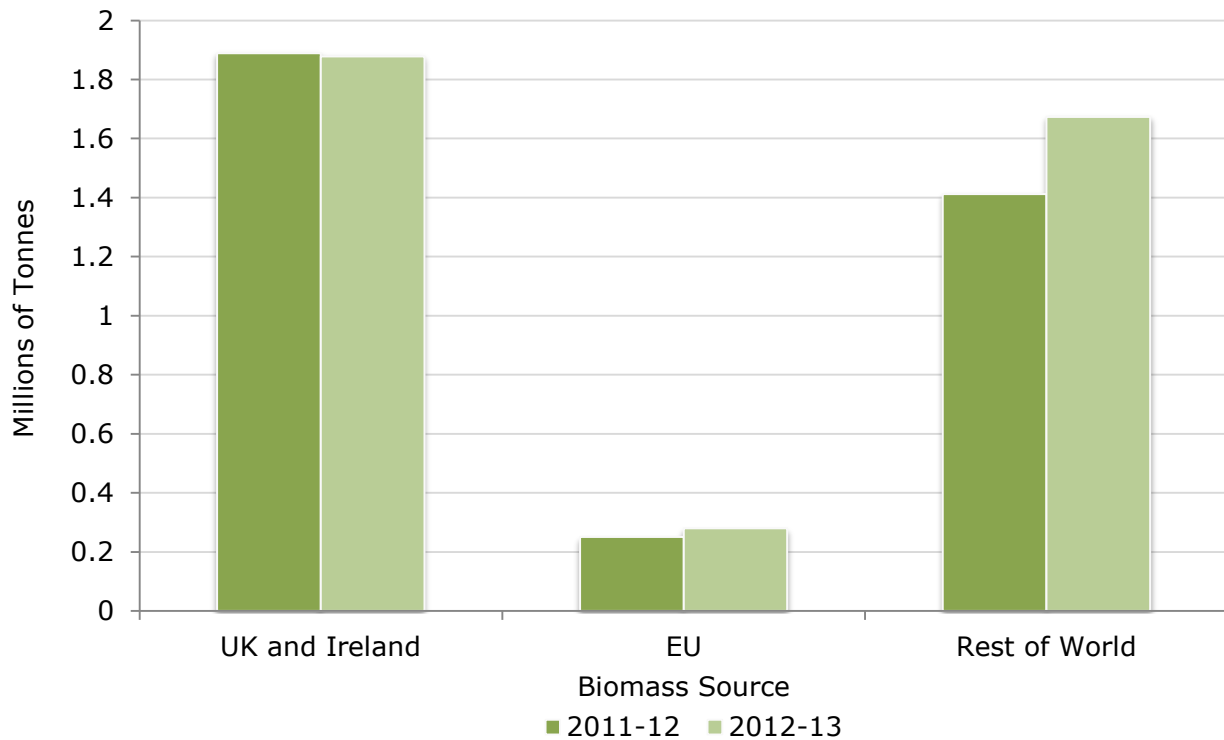
Figure 22: Energy crop combusted per obligation period



4.15 The larger volumes of solid biomass used in 2012-13, compared with 2011-12, have seen stations increasingly source their biomass from overseas; an 11.8% increase was seen in 2012-13. By comparison the quantity of solid biomass sourced from the UK and Ireland over the same period fell slightly, by 0.5%, shown in **Figure 23**.

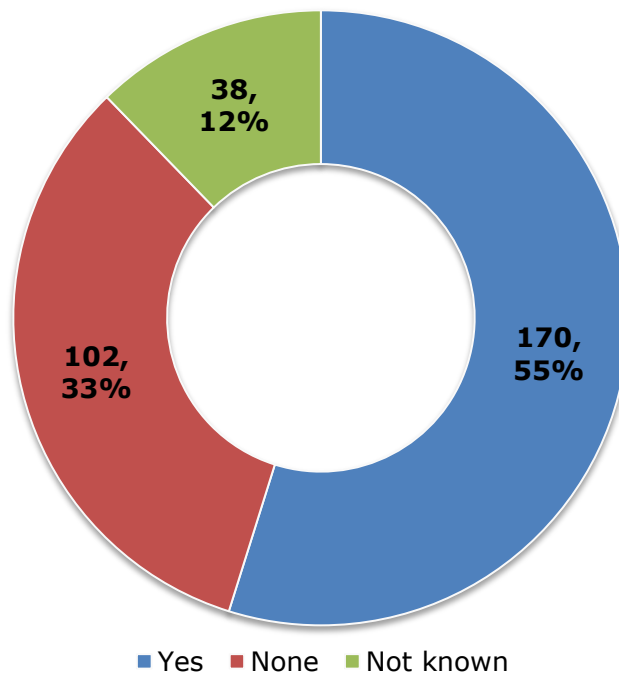
4.16 The annual profiling data showed that of a total of 19 anaerobic digestion (AD) stations, 14 of them had sourced their feedstocks from the UK. These AD stations are not required to measure the volume of biogas used but four of them chose to do so. These four stations consumed around 7.2 million m³ of biogas during 2012-13.

Figure 23: Source of solid biomass used for electricity generation - comparison between 2011-12 and 2012-13



4.17 The number of consignments sourced using recognised environmental quality assurance schemes in 2012-13, reported as annual profiling data, is shown in **Figure 24**. Environmental quality assurance schemes include such schemes as the Forestry Stewardship Council and the Assured Combinable Crops Scheme. The accompanying dataset to this chapter provides full details on all environmental quality assurance schemes reported.

Figure 24: Number of consignments sourced using a recognised environmental quality assurance scheme



Overview of sustainability information received (monthly data)

4.18 The monthly data submitted to us by generating stations includes details of whether the biomass used to generate the electricity has met, or is exempt from, the land and GHG criteria. A station generating electricity from solid biomass or biogas can also report 'unknown' against these criteria and still be eligible for ROCs.

4.19 In 2012-13 there were 576 fuels reported against generation from bioliquids²¹. Of this information 476 were exempt from meeting the land criteria and 90 were exempt from meeting the GHG criteria. All fuels reported as not exempt from meeting the criteria did indeed meet the criteria. The average GHG emissions saving reported to us was 84.7%.

4.20 In the same period there were 624 fuels reported against generation from solid fuels. Of this information, 208 were exempt from meeting the land criteria, 166 reported unknown and the remaining 250 met the land criteria. Values on the GHG criteria were reported against by 235 of the claims whilst 190 were exempt and the remaining 199 reported unknown.

4.21 There were 505 fuels reported against generation from gaseous fuels. Of this information 288 were exempt from meeting the land criteria, 153 reported unknown and the remaining 64 met the land criteria. Values on the GHG criteria were reported against by 12 of the claims whilst 300 were exempt and the remaining 193 reported unknown.

4.22 There were no particular trends in reporting behaviour worthy of note between 2011-12 and 2012-13, however a comparison of these data is shown in **Figures 25 and 26**.

²¹ Some certificate claims have multiple fuel contributions for the same generation month.

Figure 25: Monthly land criteria percentage response for solid, liquid and gaseous biomass - comparison between 2011-12 and 2012-13

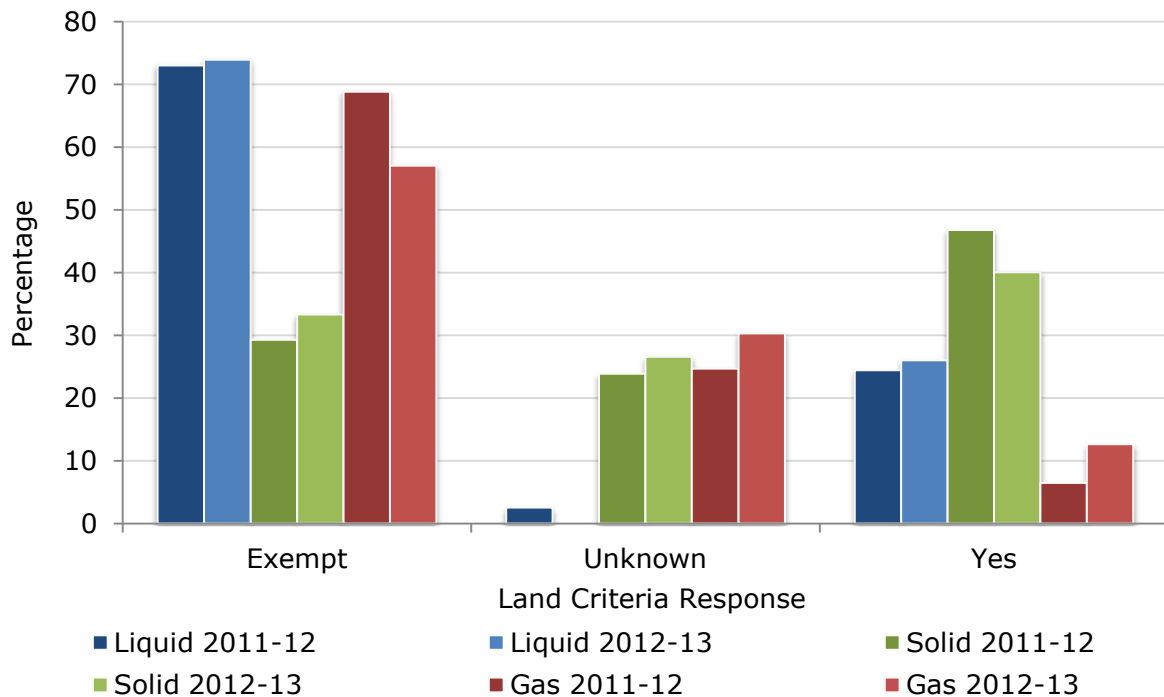
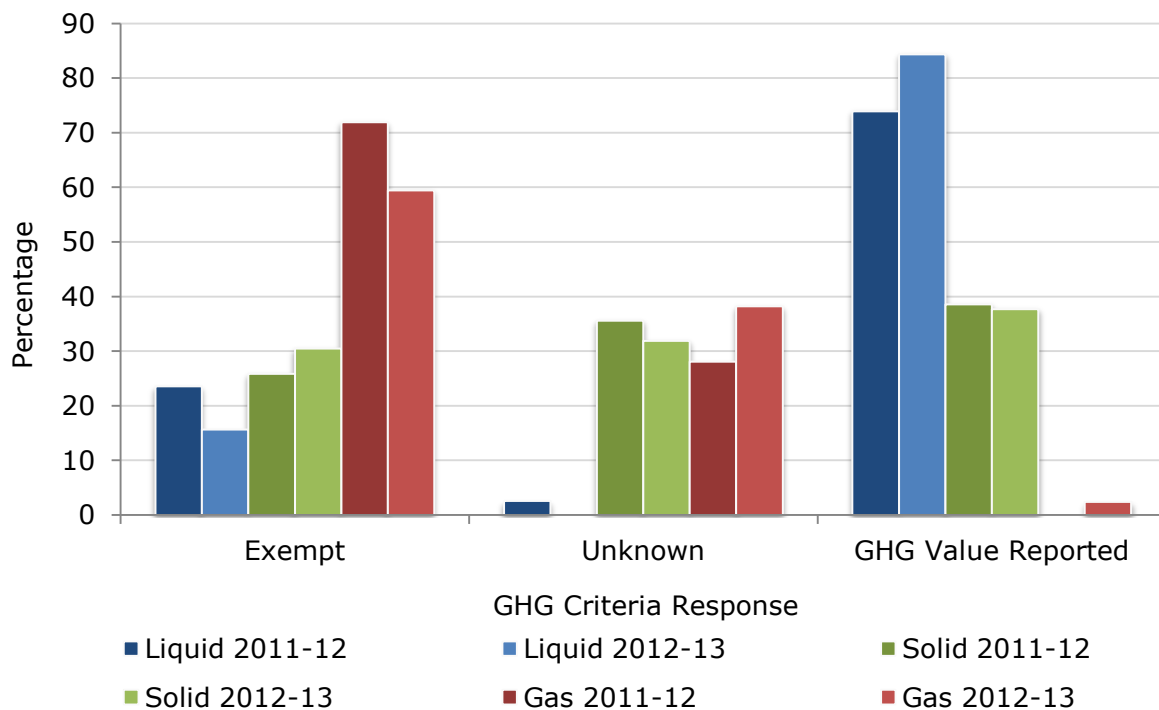


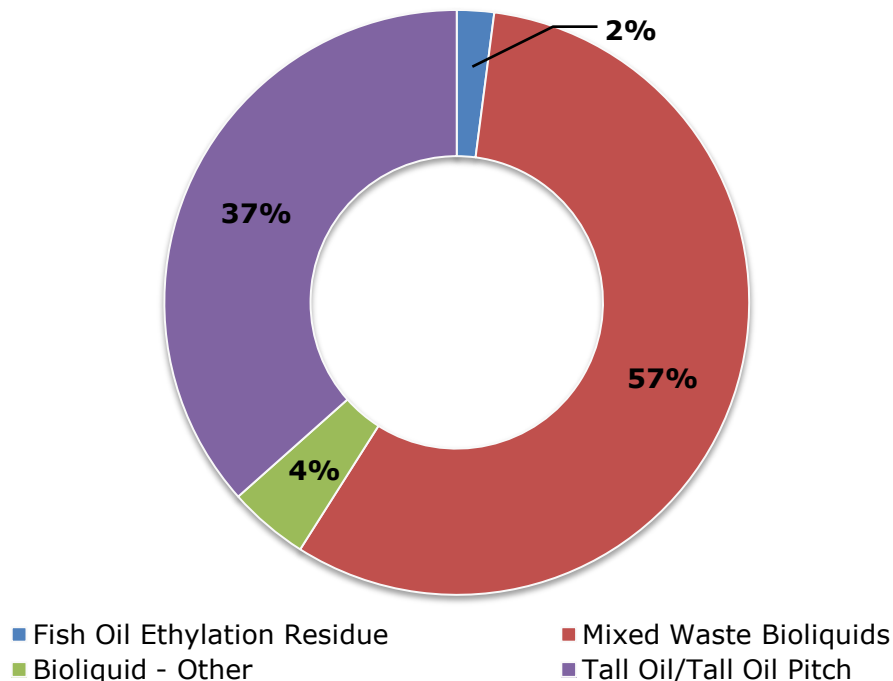
Figure 26: Monthly GHG percentage response for solid, liquid and gaseous biomass - comparison between 2011-12 and 2012-13



4.23 The bioliquid fuel types combusted over the 2012-13 Obligation Period are outlined in **Figure 27**. There was a wide range of bioliquids used over the period, with mixed waste bioliquids and tall oil/tall oil pitch seeing the greatest quantities combusted. As many of the quantities of these bioliquids have been reported on a mass basis, these have been converted

to litres (L) via a general density value of 0.8 kg/L and 1 kg/L for oil and aqueous liquids respectively. Refer to the dataset for absolute values and the full range of bioliquid types reported.

Figure 27: Bioliquid fuel types combusted during 2012-13



'Bioliquid - Other' includes fatty acid methyl ester, mixed distillation residue, rape seed oil, waste cooking oil and cashew nut shell liquid.

Review of annual audit reports

4.24 To be eligible for ROCs against bioliquid generation a station must submit an annual audit report to Ofgem prepared by an independent auditor. The report must be undertaken and written to the International Standard on Assurance Engagements (ISAE) 3000 standard. If a report is not submitted then we will suspend ROC issue to the station concerned, up to the number of ROCs issued against generation from bioliquids during the preceding obligation period. If the audit report concludes that ROCs have been issued against generation from unsustainable bioliquids then those ROCs will be revoked. Alternatively, if those ROCs have been presented to us for compliance with an obligation, then an equivalent number of ROCs will be withheld against future generation.

4.25 The 2012-13 obligation period is the second year that we have been required to review independent audit reports relating to bioliquid generation. We were presented with 45 audit reports in 2012-13. We have reviewed these reports and agreed with the auditor's findings that all bioliquids either met, or were exempt from meeting, the land and GHG criteria. The number of reports is up slightly from the 43 reports we reviewed in 2011-12. Some smaller stations have remarked that the revenue received from sale of ROCs does not merit the cost of the audit and have ceased to claim ROCs.

4.26 To support our review of the audit reports presented to us, we secured the services of Future Perfect who provided us with training on the ISAE 3000 standard. They also provided a second level of review of the audit reports. They have subsequently provided us with written confirmation that the conclusions we drew from our review of these reports were correct.

5. Compliance by licensed suppliers

Chapter Summary

Chapter 5, along with Appendix 4, details how licensed electricity suppliers met their obligations under the RO Orders. All suppliers complied with their obligations in 2012-13. A total of 44.8 million ROCs were presented for compliance. We redistributed £164 million to suppliers from the buy-out and late payment funds and each ROC was worth £44.38. The value of the scheme was £1.99 billion.

5.1 The Orders require each supplier to source a proportion of the electricity that it supplies to customers in the UK from eligible renewable sources²². This proportion, or obligation level, is set by the Department of Energy and Climate Change (DECC) six months before each obligation period by using 'fixed target' and 'headroom' calculations²³. The higher of the two figures produced by these calculations is used to set the obligation level.

5.2 As it produced a higher obligation level, the headroom calculation was applied for 2012-13. This meant suppliers in England, Wales and Scotland had to present 15.8 ROCs per 100 MWh of electricity supplied to customers, and suppliers in Northern Ireland needed 8.1 ROCs per 100 MWh. DECC announced this on 30 September 2011²⁴. If the fixed target had been used the obligation would have been set at 12.4 ROCs per 100 MWh in England, Wales and Scotland, and 6.3 ROCs per 100 MWh in Northern Ireland.

5.3 Suppliers can meet their obligations by presenting the specified number of ROCs, making a fixed buy-out payment for each ROC not presented, or through a combination of both.

5.4 We set the buy-out price before the obligation period and increase it annually in line with the Retail Prices Index (RPI)²⁵. In 2012-13 we set the price at £40.71 per ROC – an increase of 5.2% from the 2011-12 value of £38.69. In February 2013 the buy-out price for 2013-14 was set at £42.02²⁶.

5.5 The total Renewables Obligation across all suppliers is determined by multiplying the obligation level by the total megawatt-hours (MWh) of electricity supplied in the UK. For 2012-13 the total obligation was 48.9 million ROCs; an increase of 11.2 million (29.8%) from the previous year.

Submission and validation of supply volumes

5.6 Our document *Renewables Obligation: Guidance for Licensed Electricity Suppliers*²⁷ recommends a particular methodology that suppliers should follow when reporting their supply volumes for an obligation period. This states that they should use settlement reports from Elexon (which delivers the Balancing and Settlement code) for supply in Great Britain, and

²² Article 2(1) of the Orders defines renewable output.

²³ Article 12 of the Orders refers.

²⁴ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48466/5935-calculating-the-level-of-the-renewables-obligation.pdf

²⁵ RPI from the Office for National Statistics: <http://www.ons.gov.uk>

²⁶ <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-buy-out-price-and-mutualisation-ceiling-2013-14>

²⁷ <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-guidance-licensed-electricity-suppliers-may-2013>

from Northern Ireland Electricity Transmission and Distribution (NIE) which performs a similar function in Northern Ireland.

5.7 To set suppliers' obligations more accurately and confidently, in 2013 we obtained settlement figures from Elexon and NIE. This allowed us to validate the supply volumes submitted to us by suppliers. Where we identified a material variance between the figure presented by a supplier and that recorded by Elexon or NIE, we asked these suppliers to provide an explanation for the difference and to revise their submitted figure if appropriate.

5.8 This process was carried out as soon as possible after the 1 July 2013 deadline for suppliers to report final supply volumes. This enabled us to revise supply figures (and therefore obligations) in time for the suppliers to present ROCs for compliance by 1 September and make buy-out payments by 31 August.

5.9 This approach, along with the supplier audit programme (carried out concurrently - see Chapter 6 for details) resulted in eight suppliers altering their supply figures from their original submissions.

5.10 The process of validating supply volumes using data from Elexon and NIE arose from our E-Serve Process Improvement Programme (PIP). See Chapter 8 for details.

Details of ROCs presented and payments made by suppliers

5.11 The number of ROCs presented for compliance across the UK increased by 30.1% from 34.4 million in 2011-12 to 44.8 million in 2012-13. This latter figure agrees closely with the prediction made by DECC when setting the obligation level (45.1 million ROCs, the obligation ceiling being 49.6 million ROCs after applying the 10% headroom).

5.12 The proportion of the total UK obligation met by the presentation of ROCs increased from 91.3% in 2011-12 to 91.5% in 2012-13.

5.13 Some ROCs issued during 2012-13 were not presented for compliance and remain on the Register - these are known as banked ROCs. As at 21 November 2013 they numbered approximately 236,000. Suppliers can present these banked ROCs for compliance with the 2013-14 obligation; beyond this they cannot be presented²⁸.

²⁸ ROCs can only be carried forward for one obligation period as stated in Article 13 of the Orders. This is why, in any period, the number of ROCs presented for compliance is unlikely to match the number issued.

Table 3: Compliance by licensed electricity suppliers against each obligation in the UK in 2012-13

	England & Wales	Scotland	Northern Ireland	UK total
Total electricity supplied (MWh)	276,802,745	28,603,543	8,163,440	313,569,728
Total obligation (ROCs)	43,734,836	4,519,357	661,239	48,915,432
Total ROCs presented	39,946,901	4,338,265	488,333	44,773,499
Total no. of licensees²⁹ with an obligation	43	34	9	86

5.14 Suppliers with 52 licences had a total of 86 obligations across the three Orders. These suppliers complied by presenting their total obligation in ROCs, making payments to cover their full obligation, or by a combination of ROCs and payments. Across the schemes:

- 37 obligations were met by presenting the full amount of ROCs, of which:
 - 12 licensees presented the full amount of ROCs towards the RO
 - 22 presented the full amount of ROCs towards the ROS
 - three presented the full amount of ROCs towards the NIRO.
- 34 obligations were met entirely through payments, of which:
 - 19 licensees made full payments to comply with the RO
 - 10 made full payments to comply with the ROS
 - five made full payments to comply with the NIRO.
- 15 obligations were met through a combination of payments and presentation of ROCs, of which:
 - 12 licensees presented some ROCs and made a partial buy-out payment to comply with the RO
 - two suppliers complied with the ROS in this fashion
 - one supplier complied with the NIRO through this method.

5.15 **Figures 28, 29 and 30** show the proportion of each obligation attributed to each supplier group³⁰. For the RO and ROS these obligation proportions are very similar to those from last year. For the NIRO, the total share of Power NI has decreased from 44.2% to 40.5%;

²⁹ 'Licensee' refers to a supply licence against which electricity was supplied and an obligation incurred – some suppliers own more than one licence, while licences may also incur more than one obligation. Therefore 'licensee' is not synonymous with 'supplier'.

³⁰ Some suppliers have more than one licence with an obligation so their licences are 'grouped' under one name. For a list of supplier groups and their licences see Appendix 4.

conversely SSE's share (supplying under the Airtricity licence) has increased from 20.5% to 26.2%.

Figure 28: Proportion of obligation under the RO by supplier group

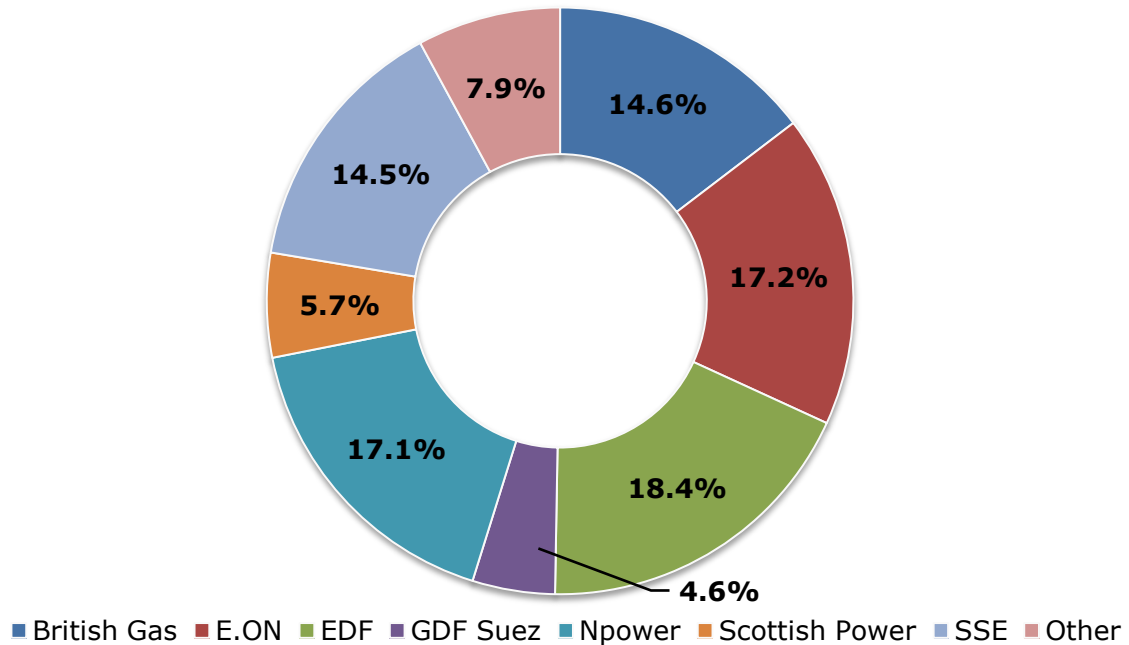


Figure 29: Proportion of obligation under the ROS by supplier group

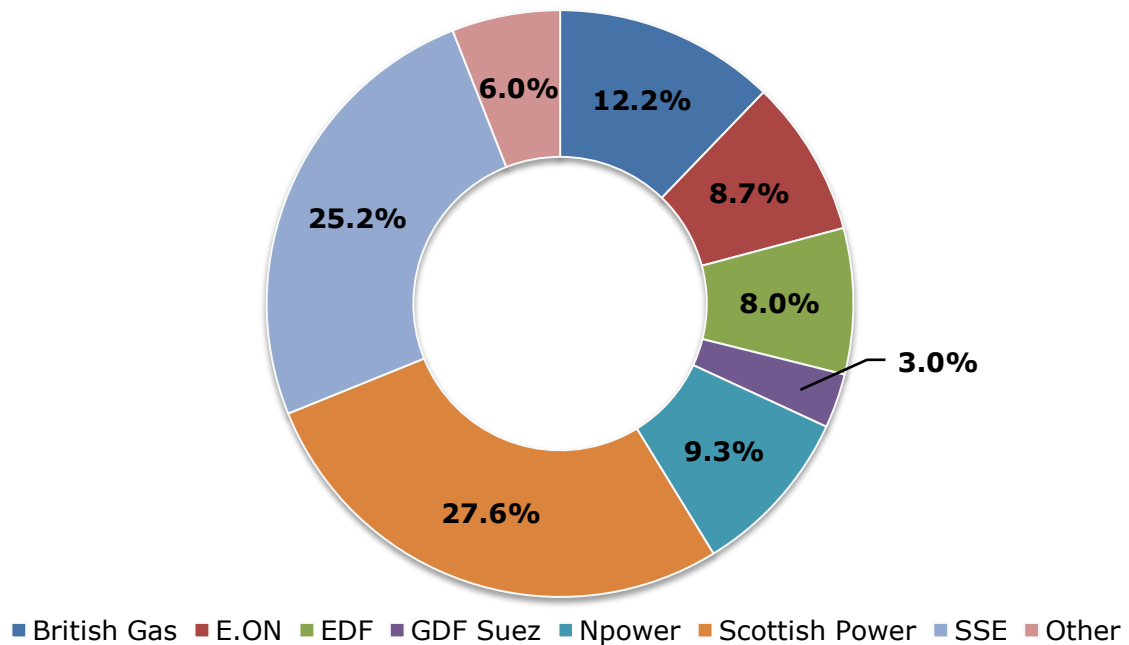
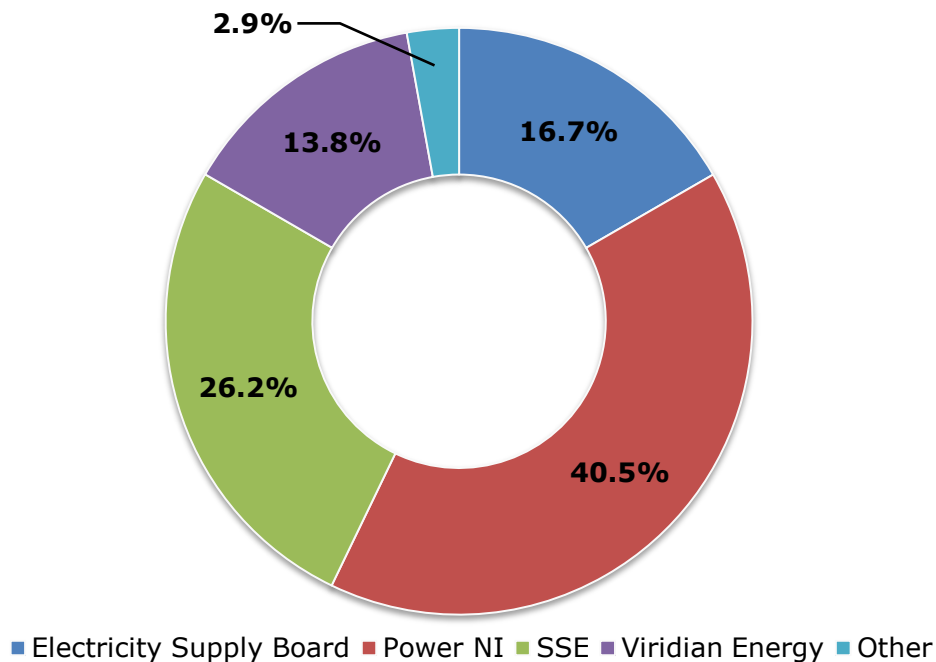


Figure 30: Proportion of obligation under the NIRO by supplier group



Note: SSE is the owner of the Airtricity licence which supplies in Northern Ireland.

5.16 Those suppliers that did not present enough ROCs to fully meet their obligations paid a total of £165.1 million into the buy-out funds by the statutory deadline date of 31 August 2013.

5.17 Across the schemes, 12 suppliers covering 15 obligations³¹ did not meet the 31 August deadline for making buy-out payments. Instead they complied with their obligations by making late payments (which are subject to a daily interest penalty at an annualised rate of 5% plus Bank of England base rate) by the statutory deadline of 31 October 2013. These late payments totalled around £3.5 million.

5.18 **Table 4** summarises supplier compliance under each Order for the 2012-13 obligation period³². Full tables of how all suppliers met their obligations can be found in Appendix 4.

³¹ Three of the suppliers had obligations to meet through late payments in both England and Wales **and** Scotland; the remaining GB suppliers had to make late payments towards their England and Wales obligations only.

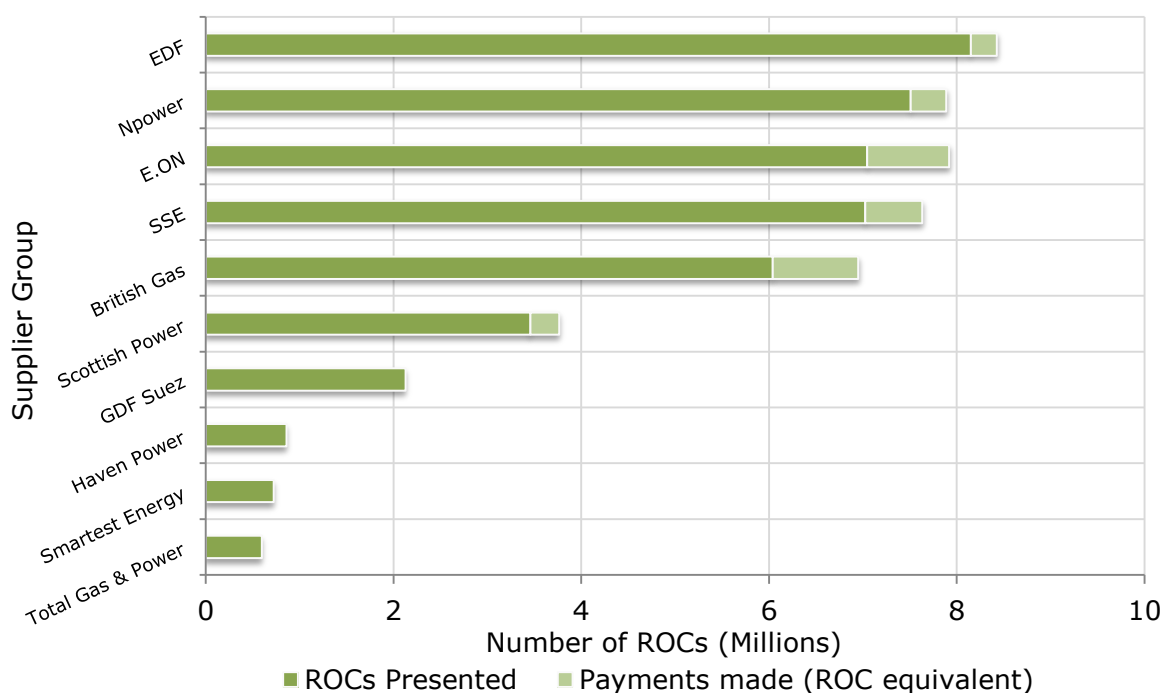
³² For previous obligation years please see the relevant Renewables Obligation Annual Reports on our website.

Table 4: Summary of supplier compliance in 2012-13

	RO	ROS	NIRO	Total
Total obligation (ROCs)	43,734,836	4,519,357	661,239	48,915,432
Total ROCs presented	39,946,901	4,338,265	488,333	44,773,499
Percentage met by ROCs	91%	96%	74%	92%
Total buy-out paid by suppliers	£151,112,031	£7,286,724	£6,710,759	£165,109,513
Total late payments paid	£3,115,286	£86,182	£328,352	£3,529,820

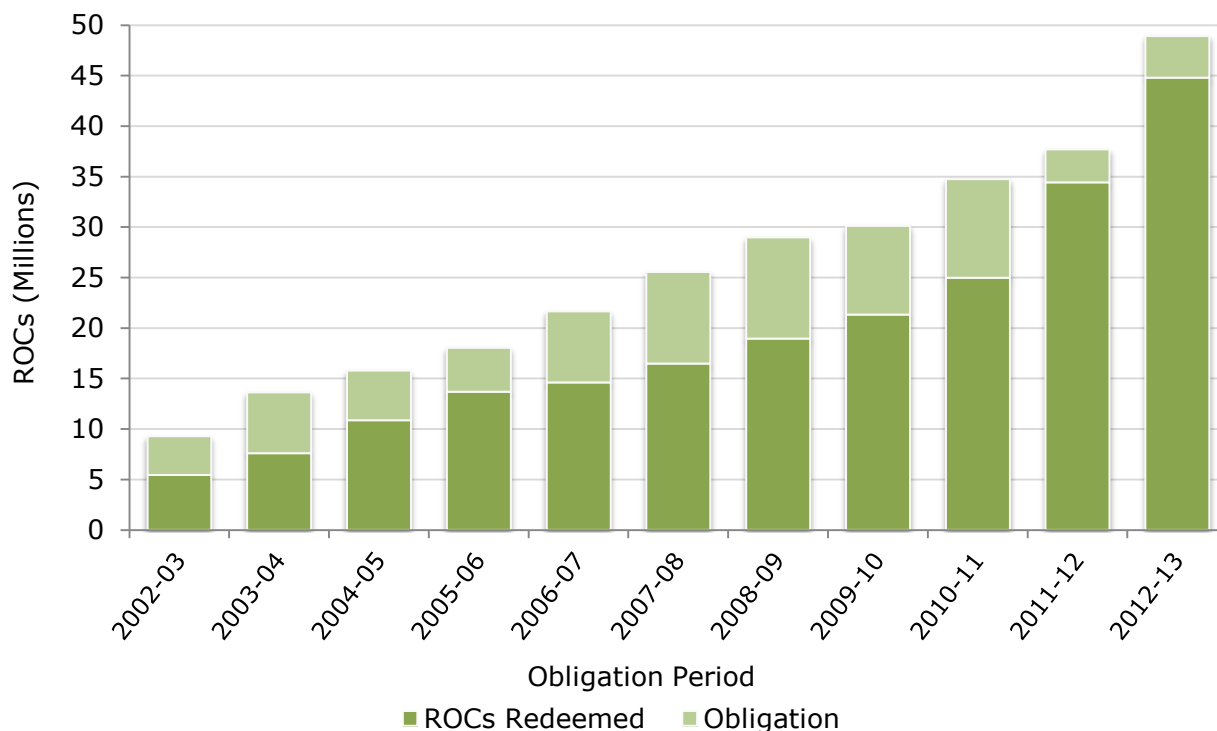
5.19 **Figure 31** shows, for the 10 largest supplier groups, the supplier's obligation, the proportion of this obligation met through ROCs, and the proportion met through payments. For these 10 supplier groups, none of the payments were late, but rather were buy-out payments made by 31 August.

Figure 31: Proportion of obligation met by ROCs and payments for the 10 largest supplier groups in 2012-13



5.20 **Figure 32** shows the trend in total UK obligation and the proportions met through ROCs and payments since the start of the scheme in 2002-03. The lighter green sections in the columns represent the proportion of the obligation met through payments each year. A higher percentage of the total obligation has been met through ROCs in the last two obligation periods.

Figure 32: Trend in total UK ROC obligation and ROCs redeemed since 2002-03



Redistribution of the buy-out and late payment funds

5.21 The single recycling mechanism ensures that the buy-out and late payment funds are redistributed to suppliers in proportion to the total number of ROCs that each has presented across the three obligations. For example, a supplier that presented ROCs representing 3% of the total across all three obligations would get back 3% of the total buy-out and late payment funds, irrespective of where these ROCs were redeemed.

5.22 As described in 1.9, Ofgem and UR administration costs totalling £4.3 million were deducted from the buy-out funds before redistribution. Interest accrued on payments while in our buy-out accounts was also added to the amount to be redistributed. This resulted in £160.9 million being recycled back to suppliers. Buy-out recycle payments were made on 30 September 2013, well in advance of the statutory deadline of 1 November 2013.

5.23 The buy-out recycle payments were due to have been made on 27 September 2013 and we had calculated the interest accrued up to this date. Due to an error made by our bank however, we were not able to release the payments until 30 September. Therefore three days' worth of additional interest was owed to suppliers which totalled £4,751. This was paid to us by our bank before we redistributed it to the suppliers on 31 October 2013.

5.24 We redistributed the late payment funds together with accrued interest, totalling £3.5 million, on the same basis as the buy-out funds on 27 November 2013. This was well in advance of the legislative deadline of 1 January 2014.

5.25 **Table 5** details the recycle payments made for the 2012-13 obligation period. This includes the redistribution of the buy-out and late payments funds as well as the small additional interest payment detailed in 5.23. Full details of the recycle payments received by individual suppliers are shown in Appendix 4.

Table 5: Summary of redistribution payments made to suppliers in 2012-13

	RO	ROS	NIRO	UK Total
Initial buy-out payments	£147,244,671	£7,100,140	£6,539,110	£160,883,921
Additional interest	£4,345	£210	£196	£4,751
Late payments	£3,116,518	£86,212	£328,627	£3,531,357
Totals	£150,365,534	£7,186,562	£6,867,933	£164,420,029

5.26 The combined sum redistributed to suppliers from the buy-out and late payment funds was approximately £164.4 million, a 33% increase from 2011-12. Based on the total of 44.8 million ROCs presented, this means the recycle value of a ROC for this obligation period was £3.67. When combined with the buy-out price of £40.71, the total value of a ROC for the 2012-13 obligation period was £44.38.

5.27 The recycle value of a ROC was similar to that of last year, though both are considerably lower than in previous years as shown in **Table 6**. This can be attributed to the much smaller sums available for redistribution from the buy-out and late payment funds. This resulted from a greater proportion of the obligation being met through ROCs.

Table 6: Determination of ROC recycle value since 2008-09

	2008-09	2009-10	2010-11	2011-12	2012-13
Total of buy-out and late payments redistributed	£352,651,576	£323,668,318	£358,308,373	£123,116,772	£164,420,029
Total ROCs presented	18,948,878	21,337,205	24,969,364	34,404,733	44,773,499
Recycle value per ROC presented	£18.61	£15.17	£14.35	£3.58	£3.67
Worth of a ROC to a supplier	£54.37	£52.36	£51.34	£42.27	£44.38
Average ROCs issued/MWh	1.00	1.04	1.07	1.12	1.27
Support per MWh supplied	£54.37	£54.45	£54.93	£47.34	£56.36

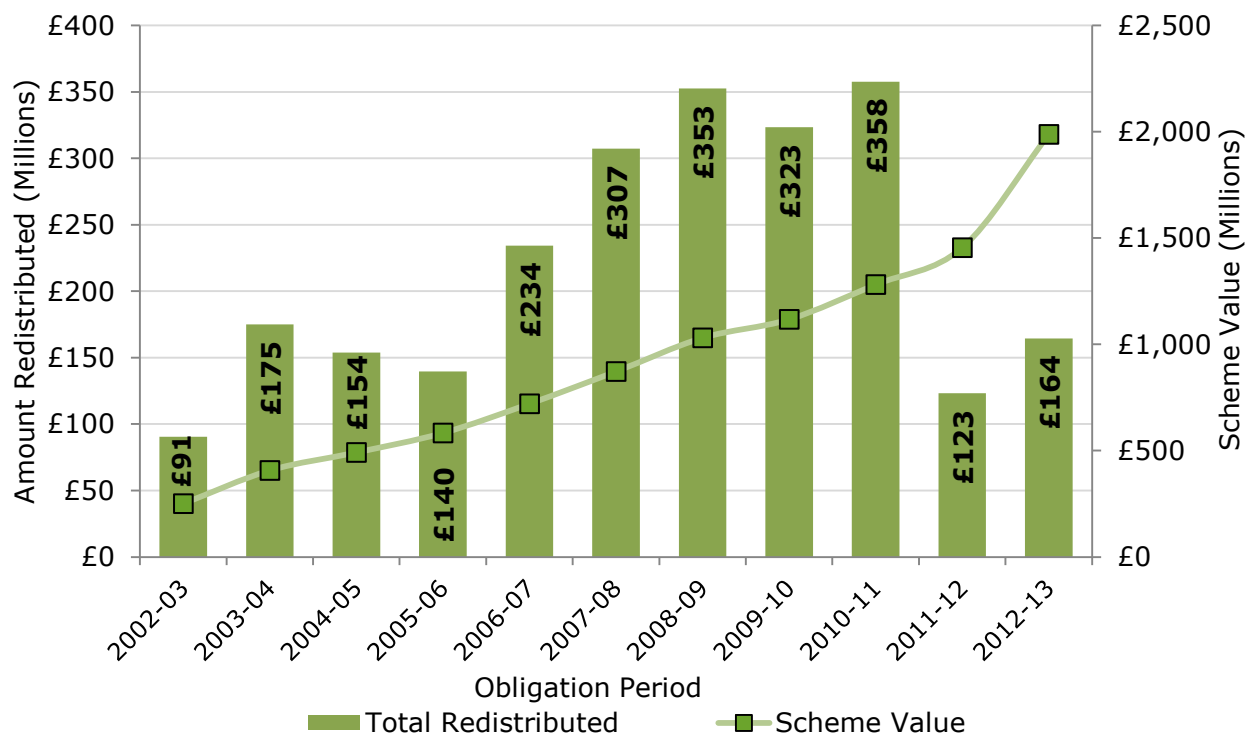
5.28 Based on the value of a ROC of £44.38, the total value of the 44.8 million ROCs presented for compliance in 2012-13 was £1.99 billion.

5.29 Using the average number of ROCs issued per MWh for each obligation period from Table 1, values can be determined for the amount of support (in £) per MWh supplied. These are shown in the bottom row of Table 6. In 2011-12 this value dropped noticeably from 2010-11, driven by the reduction in the size of the buy-out fund and recycle value. In 2012-13 the support per MWh increased by 19%, bringing it back in line with the values from 2008-09 to

2010-11. The increase was not driven by the recycle value (which remained similar in 2012-13 compared with 2011-12), but by the average ROCs issued per MWh, which increased sharply from 1.12 to 1.27.

5.30 The amounts redistributed in each obligation period, and the growth in value of the scheme since its introduction in 2002, are shown in **Figure 33**. Notable here are the drop-off in payments redistributed in the last two years as described in 5.27, and the accelerated growth in the value of the scheme in the same period.

Figure 33: Total payments* redistributed to suppliers and scheme value since 2002-03



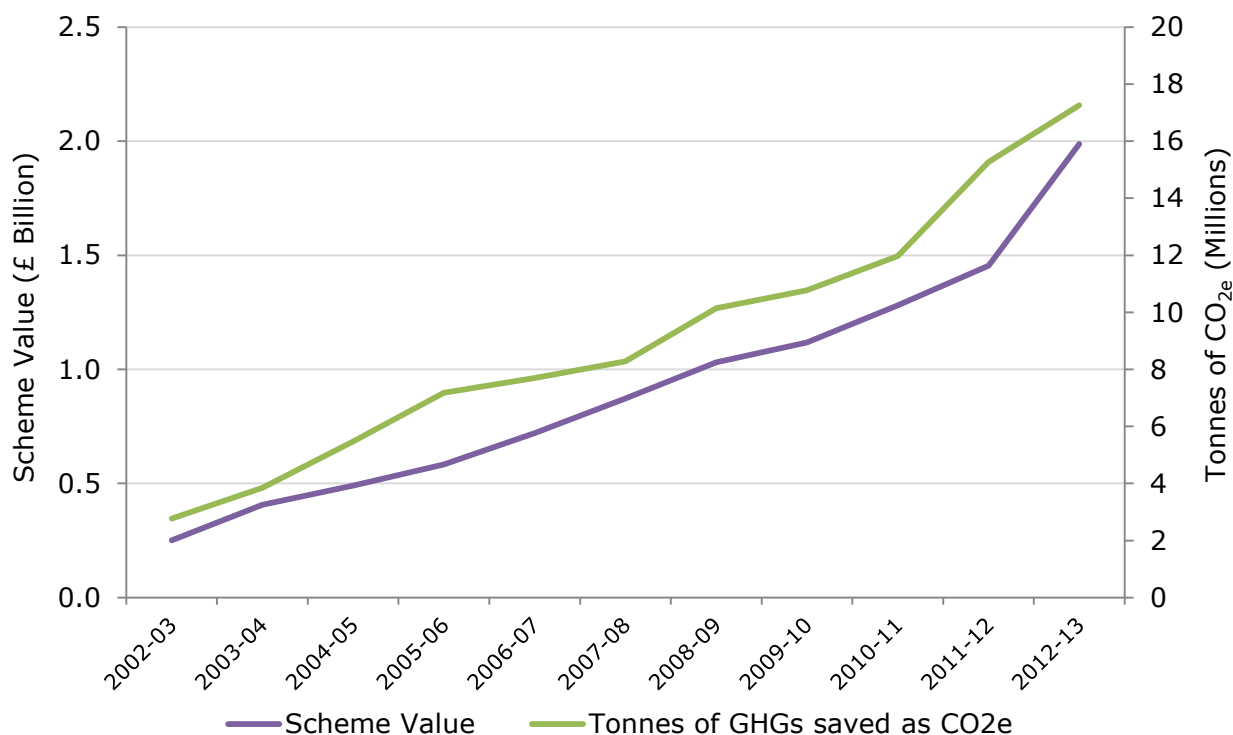
* ie buy-out and late payments for RO, ROS & NIRO combined

Emissions abatement

5.31 Using the scheme value of £1.99 billion and the estimated figure for GHG emissions saved under the scheme of 17.3 million tonnes (as explained in 3.26), the cost of GHG emissions saved in 2012-13 was £115.10 per tonne (CO_{2e}). However as described in 3.27, this is not directly comparable with figures in previous annual reports.

5.32 Using the methodology outlined from 3.24 to 3.28, and Defra’s figures for each year since 2002, the tonnes of GHG emissions abated can be worked out for each obligation period since the start of the RO. This is plotted against scheme value in **Figure 34**. Here it can be seen that the growth in value of the scheme has been roughly in line with yearly increases in the amount of GHG emissions saved.

Figure 34: Scheme value and yearly GHG savings since 2002-03



Mutualisation

5.33 If a supplier is unable to meet its obligation under the RO or ROS – for example if it has gone into administration – there may be a shortfall in the buy-out fund. Where the shortfall qualifies as a ‘relevant shortfall’³³, a mutualisation process applies. The threshold for a relevant shortfall for the RO in 2012-13 was £12.4 million. For the ROS it was £1.24 million. Mutualisation does not apply in Northern Ireland.

5.34 If mutualisation is triggered by a relevant shortfall in the buy-out or late payment funds, all suppliers with an obligation under the RO and ROS must make additional payments to make up this shortfall. These payments are capped at the ‘mutualisation ceiling’, an amount we publish each year. The mutualisation ceilings for the 2012-13 obligation period were around £245.2 million in England and Wales and £24.5 million in Scotland. As with the buy-out price, these were calculated in line with the RPI and published in February 2012³⁴.

5.35 The mutualisation ceilings for the 2013-14 obligation period, published in February 2013³⁵, will be approximately £253.1 million in England and Wales and £25.3 million in Scotland.

5.36 Mutualisation payments are redistributed to suppliers on the same basis as the buy-out and late payment funds, via the single recycling mechanism. Though mutualisation does not apply in Northern Ireland, NI suppliers will receive a share of any mutualisation funds from the RO and ROS.

³³ Schedules 3 of the RO and ROS Orders specify the amount of relevant shortfall for obligation periods up to 2015-16.

³⁴ <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-buy-out-price-and-mutualisation-ceiling-2012-13>

³⁵ <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-buy-out-price-and-mutualisation-ceiling-2013-14>

5.37 There was no shortfall in the buy-out or late payment funds in 2012-13 and mutualisation has not been triggered to date under any of the Orders.

Co-fired ROCs

5.38 Under the Orders, each supplier is permitted to meet up to 12.5% of its total obligation by presenting ROCs that have been issued for co-firing of fossil fuels and biomass.

5.39 Just under 669,000 co-fired ROCs were presented for compliance in 2012-13 across the three obligations. This was 1.4% of the total UK obligation. This total is significantly less than the 1.4 million presented last year, and indeed the 1.3 million presented in 2010-11. This is largely due to co-fired ROCs issued to Drax Power Station. These accounted for around 960,000 of the co-fired ROCs redeemed in 2010-11 and 1.1 million of those presented in 2011-12, but only around 470,000 in 2012-13. The higher volumes in 2010-11 and 2011-12 can be attributed to biomass research and development (R & D) activity at the station (ie increasing levels of co-firing, then conversion trials). As there was reduced R & D activity in 2012-13, there was a lower level of commercial co-firing as the station did not consider this economic at 0.5 ROCs per MWh.

5.40 Across the three obligations, co-fired ROCs were presented against 12 licences by seven supplier groups. The split across the three obligations was as follows:

- For the RO, approximately 659,000 co-fired ROCs were presented against 12 licences by seven supplier groups.
- For the ROS, approximately 10,000 co-fired ROCs were presented against seven licences by five supplier groups.
- No co-fired ROCs were presented towards any NIRO obligations.

5.41 From the 2013-14 obligation period the 12.5% cap on co-fired ROCs will be lifted so that suppliers can present an unlimited number for compliance. A 4% cap on ROCs issued in respect of electricity generated from the combustion of bioliquids will be introduced. Please see Chapter 7 for more details on changes in legislation.

Provision of information under the Renewables Obligation

5.42 The Orders oblige each licensed supplier to:

- Estimate the amount of electricity it has supplied during the obligation period. This must be sent to DECC by 1 June each year (and copied to us).
- By 1 July each year, provide us with the final figure for the amount of electricity it has supplied during the obligation period.
- Make a buy-out payment on or before 31 August in each year in partial or total fulfilment of its obligation.
- Present ROCs on or before 1 September each year in partial or total fulfilment of its obligation.
- Make a late payment, where required, to meet any outstanding obligation by 31 October each year.

5.43 All suppliers with an obligation under the Orders in 2012-13 complied with their obligations. However, there were some instances where the legislative deadlines for provision of information were not met. A summary of those suppliers who did not meet the deadlines for submission of information is provided in Appendix 4.

5.44 A number of suppliers holding electricity supply licences supplied no electricity in the 2012-13 obligation period and therefore had no obligation. This was confirmed by obtaining data from Elexon. The complete list of electricity supply licences in Great Britain can be found on Ofgem's Licensing website³⁶, the equivalent list for Northern Ireland can be found on UR's website³⁷.

³⁶ <https://www.ofgem.gov.uk/licences-codes-and-standards/licences/notices/licences-granted-notices>

³⁷ <http://www.uregni.gov.uk/electricity/licences/>

6. Audits under the RO

Chapter Summary

This chapter summarises the results of the RO audit programme in 2012-13, which comprised technical audits of 30 generating stations and audits of 12 licensed electricity suppliers.

Audit process for generating stations

6.1 We expect operators of generating stations applying for accreditation to submit complete and accurate information. They must also inform us of any changes that might affect their accredited status. Each year we carry out audits of accredited generating stations. These aim to assure us that accreditations are valid, to make sure output data submissions for ROC issue are correct and in compliance with the Orders, to detect fraud, and to deter the fraudulent or careless submission of inaccurate data. Individual generating stations selected for audit are a mixture of those chosen because we have specific concerns about them and those selected as random or representative examples of a particular class of generator, eg type of technology or capacity range.

6.2 During the 2012-13 obligation period we contracted Black & Veatch to carry out technical audits of 30 accredited generating stations across the UK. The technologies of the stations involved included landfill and sewage gas, onshore and offshore wind, hydro and biomass. Similar issues were identified in all countries and across all capacities and technologies.

Main issues identified

6.3 For most audits the overall findings were satisfactory. Some, however, revealed irregularities that called into question the accuracy of information in the accreditation application, the number of ROCs that the operator received, departures from agreed procedures for fuel measurement and sampling (FMS), or failures to report modifications at the generating station. No instances of deliberate fraud were identified. **Table 7** summarises the audit results.

Table 7: Summary of technical audit results

Types of irregularity reported	Number of instances
TIC or DNC figures incorrect on accreditation application	24
Commissioning date in accreditation application incorrect	15
Meter details incorrect on accreditation application	11
Errors in reporting of generation figures	9
Electrical meter calibration certificates not available at audit	9
Input electricity misreported or not reported/deducted	7
No evidence provided that meter is of approved type	7

Types of irregularity reported	Number of instances
Best practice relating to record keeping or data submission not followed (no impact on certificate claims)	7
Schematic diagram submitted for accreditation application inaccurate	7
Errors in reported fuel use/GCV data (fuelled stations)	4
Evidence of planning permission absent	4
Certificates claimed for generation occurring before accreditation	3
Metering configuration not adequate for accurate reporting of output	3
Station's reported output initially suggested it exceeded 250kW capacity. Therefore incorrectly claiming that ROCs had higher banding level (onshore wind stations)	2
FMS procedures not followed or not approved by Ofgem	2
Incorrect certificate issue	2
Other meter calibration certificates not available at audit	2
Additional generating capacity not reported to Ofgem. As a result ROCs incorrectly claimed at higher, grandfathered rate	1
Combined Heat and Power Quality Assurance Programme (CHPQA) certificate not available at audit (fuelled station)	1
Date of commissioning uncertain	1
Electrical meter calibration out of date	1
Estimates of output not agreed with Ofgem	1
Sustainability audit report not provided (fuelled station)	1
Manual meter readings not taken regularly	1
Minor discrepancies in green house gas emissions reporting (sustainability reporting by fuelled station)	1
Uncertainty concerning method of calculating export generation	1

6.4 Two audits of onshore wind generators called into question the validity of the respective stations' ROC banding. Generating data initially suggested that their capacities exceeded the threshold of 250 kW, below which 4 ROCs per MWh are issued, as opposed to 1 ROC per MWh for higher capacities. Both generating stations concerned possessed turbines which had been de-rated from higher capacities. However, further detailed analysis of historical generating data and of the capacity modification measures at the stations enabled us to conclude that they were correctly banded for ROCs.

6.5 A third audit found that, without informing us, one landfill gas generating station had added generating capacity after a relevant date for grandfathering purposes. This meant ROCs were issued at 1 ROC per MWh for all the station's reported generation, whereas a proportion of it should have received only 0.25 ROCs per MWh. Detailed investigations confirmed the audit finding. As a result, the operator decided to remove the recently installed additional capacity. We withheld and revoked an appropriate number of ROCs to correct the total number of ROCs issued.

6.6 More common findings involved the accuracy of the information submitted for ROC claims. These were due to technical issues with metering and fuel measurement equipment, the failure to fully report input electricity³⁸ and the incorrect reporting of metered generation or FMS data (for biomass fuelled stations). In most cases, the errors represented only a marginal difference from the ROCs issued. The audits also highlighted discrepancies with information on accreditation applications, particularly for commissioning date, station capacity or details of meters used. A few electrical meters were found not to be of an approved type, and for some their period of calibration had expired. Other issues related to best practice at the generating station, for example failure to notify and seek agreement with us on changes to FMS practices and procedures.

6.7 We notified each operator of the issues identified by the audit, asked the operators to rectify all problems, and conducted a follow-up exercise to ensure that this took place. In a few cases we temporarily suspended the issue of ROCs, pending the provision of information or rectification of deficiencies.

Audits of licensed suppliers

6.8 Given the large financial sums involved in the RO scheme and the critical importance of suppliers' reported supply volumes in determining the size of their obligations, we carry out an annual programme of supplier audits. We contracted Grant Thornton UK LLP to perform the audits for the 2012-13 compliance period.

6.9 The audits are intended to secure assurance of the accuracy of the electricity supply figures submitted to us for compliance purposes. They also:

- Ensure suppliers' RO compliance processes and procedures are robust and reliable and conform to our published guidance
- Detect and deter fraud
- Detect departures from good practice.

6.10 To obtain the highest possible value from the supplier audit process, and to ensure that a spread of suppliers across a range of sizes and locations was chosen, the following criteria were used to select the audited parties:

- Any of the 'Big Six' suppliers not audited in the previous two years
- Any new suppliers (those for which the 2012-13 obligation period was the first complete year they had held a supply licence, and had supplied electricity during the period)
- Any suppliers not using our recommended methodology³⁹ for reporting supply volumes (settlement reports from Elexon in Great Britain or NIE in Northern Ireland)
- Any suppliers whose figures had given cause for concern when compared with the industry standard reports mentioned above, whether for the 2012-13 or 2011-12 obligation periods.

³⁸ Article 24 of the RO and ROS Orders and Article 22 of the NIRO define input electricity.

³⁹ As defined in Appendix 5 of Ofgem's RO Guidance for Licensed Electricity Suppliers, available at <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-guidance-licensed-electricity-suppliers-may-2013>

6.11 These criteria yielded a group of 12 suppliers for audit. Unlike in previous years, only companies that supplied electricity during the obligation period were audited.

6.12 The audits revealed some discrepancies in supplier procedures and supply figures. Most of these were minor and all were remedied within the statutory deadlines for compliance with the Orders.

6.13 The 2012-13 audits identified six suppliers that were not using the recommended methodology for reporting their supply volumes. In four cases we received an adequate explanation for this, based on the circumstances of the suppliers. In the remaining two cases, we made the suppliers restate their figures. Another supplier had overstated its supply volumes while using the recommended methodology. This supplier was also required to correct its reported supply volume.

6.14 Where audits found that a supplier's calculation methods or compliance assurance processes were inadequate, we carried out a thorough follow-up exercise requiring them to provide evidence that the deficiencies noted had been addressed.

7. Changes in legislation

Chapter Summary

There have been several RO Orders and Amendment Orders since the introduction of the RO in 2002. A major review of banding took place in 2011-12 which led to the 2013 amendments in which support levels for a number of technologies were revised. Further amendments are being introduced in 2014, primarily relating to the sustainability of biomass fuels and the transition to the RO's successor, Contracts for Difference (CfD).

RO amendment 2013

7.1 In 2011-12 the government and the devolved administrations consulted on the first major banding review since the mechanism was introduced in 2009. Banding reviews were introduced to ensure that the RO schemes continue to provide value for money without significantly affecting take-up. These reviews led to legislative amendments to the three RO schemes from 1 April 2013.

7.2 For many technologies, the number of ROCs issued per MWh was reduced to a rate that was not expected to affect take-up significantly. Over time the support levels will decrease for new stations and additional capacity.

Changes to the RO, ROS and NIRO

7.3 The most significant change to the RO, ROS and NIRO was the introduction of seven new conversion and tiered co-firing bands for supporting biomass and energy crops. This was to encourage increased biomass generation from existing co-fired or fossil-fuel-only generating stations. Alongside this, a unit-by-unit approach was established to allow operators with multiple combustion units to receive different support levels based on the biomass energy content used in each unit. This allows stations to convert fully to biomass over a period of time while ensuring security of supply from this sector.

7.4 In addition, the energy crop uplift for low-range co-firing of energy crop fuels was removed for contracts agreed after 6 September 2012 under the RO and ROS, and those agreed after 22 October 2012 under the NIRO. For generators with contracts agreed before this date the uplift was grandfathered until either the end of that contract or 31 March 2019 – whichever is sooner.

7.5 In order to prevent the use of food crops in electricity generation, the definition of energy crops was amended to limit the additional support for energy crops to 15 named species.

7.6 Following the introduction of the Renewable Heat Incentive (RHI), the CHP bands will close to new entrants on 31 March 2015. Any station wishing to claim the CHP uplift for new stations or additional capacity from 1 April 2013 to 31 March 2015 must make a specific declaration to us. They will need to do this if they wish to claim support for the heat fraction of their output in the form of a CHP uplift under the RO rather than support under the RHI.

7.7 From 1 April 2013, the single band for solar PV was separated into two bands for new applications; building-mounted and ground-mounted. Prior to 1 April 2013, all solar PV stations accredited under the RO and ROS, and those greater than 250 kW accredited under the NIRO, received 2 ROCs per MWh. From 1 April 2013, such stations will receive 1.7 ROCs per MWh if

they are building-mounted and 1.6 ROCs per MWh if they are ground-mounted. These levels of support will also be reduced each year until 2016-17.

7.8 Wave and tidal generators up to 30 MW receive a new higher rate of 5 ROCs per MWh, provided they become operational between 1 April 2012 and 1 April 2017.

7.9 In light of the decrease in support under certain bands, grace periods were introduced. This was to let generators realise pre-1 April 2013 ROC levels if the stations are commissioned after this date for specific reasons beyond their control.

7.10 A cap was introduced to limit the number of bioliquid ROCs that a supplier can use to meet their obligation. This was set at 4% of their total obligation. In addition, the existing supplier compliance cap on co-fired ROCs, of 12.5%, was removed. Although these changes apply to ROCs issued from April 2013, they will only begin to affect suppliers' compliance processes in the 2013-14 compliance round, during the summer of 2014.

Changes to the ROS and NIRO

7.11 Additional amendments were introduced in April 2013 under the ROS and NIRO. For the ROS, a 15 MW capacity ceiling for new dedicated wood-fuelled biomass stations was introduced. This takes effect from 1 April 2014. Support for hydro stations at 1 ROC per MWh was retained.

7.12 For the NIRO, the main amendment is the extension of the scheme closure date to 31 March 2037. Current levels of support for AD, hydro, onshore wind and solar PV (below 250 kW) will be retained until 2014-15; the support for landfill gas at 1 ROC per MWh will be retained until 31 March 2015 and the CHP uplift will be retained until 30 September 2015.

RO amendment 2014

7.13 There are a number of further amendments expected to be made to the RO, ROS and NIRO in 2014. These are the proposed transition from the RO to Contracts for Difference (CfD), proposals to enhance the sustainability criteria for the use of biomass feedstocks under the RO, the introduction of two new offshore wind bands under the ROS and changes to solar PV under the NIRO.

Proposals for the transition from the RO and ROS to CfD

7.14 CfD is a new scheme due to come into force in 2014 which will replace the RO once it closes to new capacity in 2017. During the transition between the CfD scheme opening to applications and the RO closing to new capacity, government has proposed that developers will have a one-off choice of scheme between the RO and CfD.

7.15 The main areas of change associated with the transition proposals are detailed in consultation documents from DECC and the Scottish government. The points that affect stations are:

- New generating stations will have a one-off choice of scheme between the RO and CfD.
- RO-accredited generating stations that add extra capacity of more than 5 MW will be able to choose whether this additional capacity is accredited under the RO or CfD. Stations with capacity in both the RO and CfD will be known as dual-scheme plants.

- RO-accredited biomass co-firing stations can choose to transfer to CfD if they convert to dedicated biomass. This choice is available station-wide or unit-by-unit. Stations with multiple units that convert only some units to dedicated biomass under CfD, rather than all units, would become dual-scheme plants.
- RO-accredited offshore wind stations can register future phases under CfD and would also become dual-scheme plants.

7.16 These proposals require us to engage with National Grid (the CfD delivery body) to address overlap between the two schemes during the transition period. Areas of engagement will include managing dual-scheme plants and ensuring generators do not apply for support under both schemes.

7.17 The RO scheme is to close on 31 March 2017. To account for this, it has been proposed that grace periods are introduced. These would allow new generating stations (and those adding further capacity) to enter the RO before it closes if they are commissioned after this date.

7.18 CfD will not be introduced in Northern Ireland until 2016. The Department of Enterprise, Trade and Investment Northern Ireland (DETINI) expects to consult on its transition proposals closer to the time.

RO, ROS and NIRO sustainability decisions

7.19 On 1 April 2014 various amendments are expected to be made to the scheme as a result of DECC's consultation on solid biomass and biogas sustainability.

- Generating stations with a DNC of greater than 50 kW will have to report against improved sustainability criteria.
- The requirement for operators of generating stations to provide annual information to Ofgem will be revised. Some requirements will be removed and further detail will be required for certain fuel types (eg wood fuel). This also affects bioliquid fuels.
- Generating stations with a DNC of 1 MW or more must provide us with an annual independent audit report to verify their monthly information. Updated requirements of the independent audit report will also affect operators using bioliquid fuels.
- Certain feedstock will be exempt from reporting against land and GHG criteria based on fuel classification.
- Reporting rules for binders used in biomass pellets will be introduced.
- Improvements to the land criteria are being introduced so that different fuels will have to report against relevant criteria.
- Between April 2014 and April 2020 there will be two GHG thresholds. A more stringent target will be set for 'new dedicated biomass station'.

7.20 The Scottish government and DETINI have indicated, based on their biomass sustainability response documents, that they will implement the same biomass sustainability amendments as DECC.

Additional ROS and NIRO proposals

7.21 The Scottish Government has announced its intention to introduce two new bands for offshore wind:

- A band at 2.5 ROCs per MWh to support generation from offshore test and demonstration sites deploying innovative, new-to-market turbines.
- A band at 3.5 ROCs per MWh for pilot projects consisting of non-fixed (floating) turbines.

7.22 DETINI has decided to amend the ROC banding levels for ground-mounted solar PV generating stations with installed capacity above 250 kW. These will be 1.6 ROCs per MWh for stations commissioned in 2014-15, 1.5 ROCs per MWh in 2015-16 and 1.4 ROCs per MWh in 2016-17. This is planned to come into effect from 1 April 2014.

8. Implementation and improvement update

Chapter Summary

In 2012-13 we made changes to the Renewables and CHP Register and updated our guidance documents for scheme participants. This was mainly to reflect the amendments made to the RO Orders in 2013. We also ran a Process Improvement Programme to enable us to work more efficiently.

2012-13 obligation period

Renewables and CHP Register

8.1 As part of the RO, ROS and NIRO banding review we made IT changes to the Register for April 2013, including amending the support levels for many ROC bands. Some of these changes affected only new capacity, others applied to both new and existing capacity. New bands were introduced and some old bands were removed, including changes in banding support under the ROS and NIRO. We also catered for provisions in the Orders to enable a generator to register as a grace period generating station. Information on certain fuelled stations can now be provided unit-by-unit.

Guidance documents

8.2 Sometimes we publish new or revised guidance on aspects of the RO scheme, typically to reflect changes in legislation or revised processes for scheme participants. These can be found on our website.

8.3 Ahead of the 2013 banding review amendments described in Chapter 7, we published draft revisions of some guidance documents on our website. These sought views on the proposed changes. We published drafts of the guidance for generators and for fuel measurement and sampling (FMS) for consultation in December 2012. These were followed by drafts of the revised guidance documents for suppliers and for biodiesel and fossil-derived bioliquids in March 2013. Our response to the feedback on these documents was published on 3 April 2013⁴⁰.

Process Improvement Programme (PIP)

8.4 The E-Serve division ran a Process Improvement Programme in 2012-13 to make our processes more efficient. Outcomes applicable to the RO included:

- **Supply volume data validation** – As described in sections 5.6 to 5.10, this gave us additional assurance of the accuracy of supply volumes submitted by suppliers, reducing the risk of misreporting.
- **Educating licensees** – We now hold introductory meetings with new licensees to allow them to improve their understanding of their obligations (this applies to other environmental schemes as well as the RO).
- Increased automation, alignment and simplification of processes across the schemes.

⁴⁰ <https://www.ofgem.gov.uk/ofgem-publications/58132/3apr13response-stakeholder-feedback-draft-2013-ro-guidance-documents.pdf>

2013-14 obligation period

Guidance documents

8.5 Following the consultation described in 8.3, we published final versions of the revisions to each of these guidance documents on our website in May 2013. In the same month we also published an updated guidance document for agents. We followed this with guidance on bioliquid sustainability audits in October 2013.

New website

8.6 Our new website went live in August 2013. We used this opportunity to update and restructure the RO section of the site, including separate pages for information applicable to generators, agents and suppliers.

Continuous Improvement Programme (CIP)

8.7 As part of the Continuous Improvement Programme, we are examining the validation of data under the RO. This involves projects looking at output data from generators and supply volumes from suppliers. More details on these projects, including their outcomes and benefits, will be given in next year's annual report.

Appendix 1: Renewables Obligation legislation

England and Wales

The Renewables Obligation Order 2009 for England and Wales

<http://www.legislation.gov.uk/uksi/2009/785/contents/made>

The Renewables Obligation (Amendment) Order 2010 for England and Wales

<http://www.legislation.gov.uk/uksi/2010/1107/contents/made>

The Renewables Obligation (Amendment) Order 2011 for England and Wales

<http://www.legislation.gov.uk/uksi/2011/984/contents/made>

The Renewables Obligation (Amendment) Order 2013 for England and Wales

<http://www.legislation.gov.uk/uksi/2013/768/contents/made>

Scotland

The Renewables Obligation (Scotland) Order 2009

<http://www.legislation.gov.uk/sdsi/2009/9780111003268/contents>

The Renewables Obligation (Scotland) Amendment Order 2010

<http://www.legislation.gov.uk/ssi/2010/147/contents/made>

The Renewables Obligation (Scotland) Amendment Order 2011

<http://www.legislation.gov.uk/ssi/2011/225/contents/made>

The Renewables Obligation (Scotland) Amendment Order 2013

<http://www.legislation.gov.uk/ssi/2013/116/contents/made>

Northern Ireland

The Renewables Obligation Order (Northern Ireland) 2009

<http://www.legislation.gov.uk/nisr/2009/154/contents/made>

The Renewables Obligation (Amendment) Order (Northern Ireland) 2010

<http://www.legislation.gov.uk/nisr/2010/134/contents/made>

The Renewables Obligation (Amendment) Order (Northern Ireland) 2011

<http://www.legislation.gov.uk/nisr/2011/169/contents/made>

The Renewables Obligation (Amendment) Order (Northern Ireland) 2013

<http://www.legislation.gov.uk/nisr/2013/116/contents/made>

The Renewables Obligation (Amendment No. 2) Order (Northern Ireland) 2013

<http://www.legislation.gov.uk/nisr/2013/174/contents/made>

Appendix 2: Accredited generating stations

Table A1: Number and capacity of generating stations with accreditation dates falling during 2012-13

Generation technology	England		Wales		Scotland		Northern Ireland		Total	
	Quantity	Capacity (kW)	Quantity	Capacity (kW)	Quantity	Capacity (kW)	Quantity	Capacity (kW)	Quantity	Capacity (kW)
Fuelled	6	45,592	0	0	2	9,545	5	4,013	13	59,149
Hydro	0	0	0	0	0	0	1	99	1	99
Landfill Gas	3	4,721	0	0	0	0	2	1,270	5	5,991
Offshore Wind	2	878,900	0	0	0	0	0	0	2	878,900
Onshore Wind	26	373,735	3	102,080	26	649,938	48	96,517	103	1,222,270
Sewage Gas	2	6,913	1	1,170	0	0	0	0	3	8,083
Solar PV	55	228,838	1	3,859	1	627	0	0	57	233,324
Tidal Stream	0	0	0	0	1	1,000	0	0	1	1,000
Wave Power	0	0	0	0	1	800	0	0	1	800
Sub-Total DNC >50 kW	94	1,538,699	5	107,109	31	661,910	56	101,899	186	2,409,617
Hydro	0	0	0	0	0	0	3	41	3	41
On-shore Wind	0	0	0	0	0	0	13	158	13	158
Solar PV	0	0	0	0	0	0	690	3,508	690	3,508
Sub-Total DNC <=50 kW	0	0	0	0	0	0	706	3,707	706	3,707
Total	94	1,538,699	5	107,109	31	661,910	762	105,606	892	2,413,324

Table A2: Number and capacity of generating stations with accreditation dates falling on or before 31 March 2013

Generation technology	England		Wales		Scotland		Northern Ireland		Total	
	Quantity	Capacity (kW)	Quantity	Capacity (kW)	Quantity	Capacity (kW)	Quantity	Capacity (kW)	Quantity	Capacity (kW)
Fuelled	141	3,663,484	6	82,104	18	262,966	12	71,927	177	4,080,482
Hydro	50	22,472	32	77,371	148	616,371	17	3,273	247	719,487
Landfill Gas	375	833,579	18	31,643	39	96,193	8	12,028	440	973,443
Offshore Wind	18	3,192,100	2	150,000	3	188,478	0	0	23	3,530,578
Onshore Wind	155	1,401,942	43	520,070	151	4,106,883	118	524,617	467	6,553,511
Sewage Gas	134	129,673	16	12,728	5	6,497	0	0	155	148,898
Solar PV	72	235,288	1	3,859	1	627	0	0	74	239,774
Tidal Stream	0	0	0	0	3	1,700	1	1,200	4	2,900
Wave Power	0	0	0	0	3	1,682	0	0	3	1,682
Sub-Total DNC >50 kW	945	9,478,538	118	877,776	371	5,281,397	156	613,045	1,590	16,250,756
Fuelled	12	67	0	0	0	0	2	7	14	74
Hydro	0	0	0	0	0	0	16	306	16	306
Onshore Wind	3	17	0	0	1	2	385	3,185	389	3,204
Sewage Gas	1	30	0	0	0	0	0	0	1	30
Solar PV	3	6	0	0	0	0	1,138	5,251	1,141	5,257
Sub-Total DNC <=50 kW	19	120	0	0	1	2	1,541	8,749	1,561	8,871
Total	964	9,478,658	118	877,776	372	5,281,399	1,697	621,794	3,151	16,259,627

Table A3: Generating stations accredited as at 31 March 2013 under a NFFO contract

Generation Technology	England and Wales NFFO		Scotland SRO		Northern Ireland NFFO		Total	
	Quantity	Capacity (kW)	Quantity	Capacity (kW)	Quantity	Capacity (kW)	Quantity	Capacity (kW)
Fuelled	1	10,352	0	0	0	0	1	10,352
Hydro	10	2,719	2	1,530	2	610	14	4,859
Landfill Gas	77	231,126	6	13,443	0	0	83	244,569
Offshore Wind	1	1,800	0	0	0	0	1	1,800
Onshore Wind	34	167,576	6	51,381	5	22,141	45	241,098
Wave Power	0	0	1	147	0	0	1	147
Total	123	413,573	15	66,501	7	22,751	145	502,825

Table A4: Summary of approved capacity amendments effective from 2012-13⁴¹

Type	Fuelled	Hydro	Landfill Gas	Onshore Wind	Sewage Gas	Solar	Totals
Decrease	3	13	52	17	1	0	86
Increase	11	0	40	10	18	2	81
Total capacity changes	14	13	92	27	19	2	167
Capacity increases (MW)	54	0	34	33	16	<0.1	136.9
Capacity decreases (MW)	2	4	46	9	<0.1	0	62.2
Net capacity change (MW)	51.6	-4.5	-12.3	23.7	16.2	0	74.7

⁴¹ The total figures provided include nine stations that have seen a change in their capacity at least twice during the last 2 RO years. In the table, however, such stations have only been counted as having a capacity change 'once' during this period.

Table A5: Largest accredited generators by capacity, technology group and country accredited during 2012-13

Technology Type	England		Wales		Scotland		Northern Ireland	
	Station name	Capacity (MW)	Station name	Capacity (MW)	Station name	Capacity (MW)	Station name	Capacity (MW)
Solar PV	Wymeswold Solar Farm	26.4	Jordanstone	3.9	Edinburgh College	0.6	Multiple stations	<0.05
Onshore Wind	Green Rigg	36.0	Pant y Wal Wind Farm	44.2	Fallago Rig	144.0	Crighshane Energy Limited	31.9
Hydro	---	---	---	---	---	---	Tircreven Hydro	0.1
Fuelled	Iggesund Paperboard Biomass CHP	44.0	---	---	CoRDe	7.6	Tyrone Energy 1	2.2
Landfill Gas	Blaydon Landfill Gas Project	2.2	---	---	---	---	Craigahulliar Landfill Gas	1.0
Sewage Gas	Howdon AAD	5.8	Five Fords WWTW CHP	1.2	---	---	---	---
Offshore Wind	London Array Offshore Wind farm	629.9	---	---	---	---	---	---
Tidal Stream	---	---	---	---	Eday Berth 1	1.0	---	---
Wave Power	---	---	---	---	Billia Croo Berth 6	0.8	---	---

Renewables Obligation

Table A6: Largest accredited generators by capacity, technology group and country with accreditation dates falling on or before 31 March 2013

Technology Type	England		Wales		Scotland		Northern Ireland	
	Station name	Capacity (MW)	Station name	Capacity (MW)	Station name	Capacity (MW)	Station name	Capacity (MW)
Solar PV	Wymeswold Solar Farm	26.4	Jordanstone	3.9	Edinburgh College	0.6	Cavehill Primary School PV System	0.05
Onshore Wind	Fullabrook Wind Farm	65.2	Cefn Croes	45.0	Whitelee Wind farm	322.0	Slieve Kirk Wind farm	72.1
Hydro	Kielder Hydro	6.0	Dolgarrog High-Head Power Station	18.4	Glendoe Hydro Power Station	100.0	Sion Mills Hydro	0.8
Fuelled	Tilbury Power Station	1,127.0	Uskmouth Power Station	48.0	Cockenzie Power Station	146.4	Kilroot Power Station	64.3
Landfill Gas	Calvert Phase II	17.3	Trecatti 2	5.3	Avondale Power Station	11.4	North Foreshore Landfill Gas	5.7
Sewage Gas	Minworth Generating Station	9.9	Cardiff East WWTW CHP	4.0	Seafield	3.5	---	---
Offshore Wind	London Array Offshore Wind farm	629.9	Rhyl Flats Wind farm	90.0	Robin Rigg Offshore Wind Farm (West)	89.2	---	---
Tidal Stream	---	---	----	---	Eday Berth 1	1.0	SeaGen	1.2
Wave Power	---	---	----	---	Billia Croo Berth 6	0.8	---	---

Appendix 3: ROCs issued

Table A7: Total ROCs issued during 2012-13 by country and generation technology⁴²

Generation Technology	ROCs/SROCs/NIROCs Issued				
	England	Wales	Scotland	Northern Ireland	Total
Fuelled (generation types below)	7,044,514	309,379	1,280,163	89,323	8,723,379
Advanced gasification	4,551	0	0	0	4,551
Anaerobic Digestion	467,611	0	135,223	44,952	647,786
Co-firing of biomass	625,173	1,750	693	0	627,616
Co-firing of energy crops	62,836	0	0	0	62,836
Dedicated biomass	5,500,781	94,058	96,247	16,209	5,707,295
Dedicated biomass with CHP	282,278	213,571	1,045,489	28,162	1,569,500
Dedicated energy crops	29,973	0	0	0	29,973
Dedicated energy crops with CHP	0	0	2,511	0	2,511
Electricity generated from sewage gas	70,406	0	0	0	70,406
Standard gasification	483	0	0	0	483
Unspecified	422	0	0	0	422
Hydro 20 MW DNC or less	53,319	169,333	1,794,316	6,754	2,023,722
Hydro 50 kW DNC or less	0	0	0	3,191	3,191
Hydro > 20 MW DNC	0	0	101,340	0	101,340
Micro Hydro	10,759	4,361	54,656	7,134	76,910
Landfill Gas	4,226,268	152,027	488,158	58,204	4,924,657
Offshore Wind	14,108,334	614,062	967,202	0	15,689,598
Onshore Wind	2,579,567	904,627	7,637,077	1,056,807	12,178,078
Solar PV	16,821	251	5	0	17,077
Solar PV ≤ 50 kW DNC	0	0	0	6,282	6,282
Sewage Gas	477,485	34,201	27,454	0	539,140

⁴² Sewage gas, where listed under 'Fuelled' technology, refers to stations which may have used other types of fuel to generate electricity; where listed separately, it refers to stations solely using sewage gas for generation.

Renewables Obligation

Table A7: Total ROCs issued during 2012-13 by country and generation technology⁴²

Generation Technology	ROCs/SROCs/NIROCs Issued				
	England	Wales	Scotland	Northern Ireland	Total
Tidal Flow	0	0	368	7,169	7,537
Wave Power	0	0	224	0	224
Wind 50 kW DNC or less	0	0	0	7,584	7,584
Total	28,517,067	2,188,241	12,350,963	1,242,448	44,298,719

Table A8: ROCs, SROCs and NIROCs issued each month of 2012-13⁴³

Month	ROCs	SROCs	NIROCs	Total
April 2012	1,771,344	802,204	83,229	2,656,777
May 2012	1,719,901	765,484	71,029	2,556,414
June 2012	1,943,340	723,660	72,763	2,739,763
July 2012	1,706,392	707,562	68,072	2,482,026
August 2012	1,887,789	761,906	89,721	2,739,416
September 2012	2,585,897	1,358,897	127,371	4,072,165
October 2012	2,638,914	861,469	78,008	3,578,391
November 2012	3,024,058	1,291,120	118,495	4,433,673
December 2012	3,663,203	1,431,352	132,626	5,227,181
January 2013	3,320,179	1,454,761	142,366	4,917,306
February 2013	2,997,889	1,018,502	109,145	4,125,536
March 2013	3,446,402	1,174,046	132,528	4,752,976
Annual	0	0	17,095	17,095
Total	30,705,308	12,350,963	1,242,448	44,298,719

⁴³ The lowest row in the table, listed as 'Annual', relates to annually-issued ROCs for microgenerators that remain under the RO schemes.

Renewables Obligation

Table A9: Total ROCs issued across all schemes for each month of 2012-13 by generation technology⁴⁴

Generation Technology	Apr 2012	May 2012	June 2012	Jul 2012	Aug 2012	Sep 2012	Oct 2012	Nov 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013	Annual	Total
Fuelled (generation types below)	397,482	439,709	431,671	549,493	544,391	742,431	834,281	952,123	935,438	1,005,949	828,257	1,061,693	461	8,723,379
Advanced gasification	0	0	0	0	0	100	111	669	1,207	912	1,122	430	0	4,551
Anaerobic Digestion	46,091	51,515	52,512	53,768	55,238	53,900	56,817	58,361	55,405	55,628	51,674	56,416	461	647,786
Co-firing of biomass	78,158	94,469	85,605	90,319	65,877	46,281	35,255	21,162	16,927	22,781	41,360	29,422	0	627,616
Co-firing of energy crops	8,226	7,848	10,364	11,065	5,637	3,298	4,143	2,540	1,373	1,623	872	5,847	0	62,836
Dedicated biomass	145,118	135,627	113,878	233,153	281,011	495,156	585,492	718,268	711,388	795,294	620,474	872,436	0	5,707,295
Dedicated biomass with CHP	109,941	138,177	156,078	146,463	123,530	137,640	144,992	142,849	142,132	124,619	108,555	94,524	0	1,569,500
Dedicated energy crops	2,848	3,223	5,817	6,911	6,518	0	674	1,980	628	456	510	408	0	29,973
Dedicated energy crops with CHP	308	1,319	285	599	0	0	0	0	0	0	0	0	0	2,511
Electricity generated from sewage gas	6,771	7,391	6,986	6,979	6,513	6,019	6,770	6,249	6,335	4,548	3,657	2,188	0	70,406
Standard gasification	0	119	132	232	0	0	0	0	0	0	0	0	0	483
Unspecified	21	21	14	4	67	37	27	45	43	88	33	22	0	422
Hydro ≤ 20 MW DNC	144,322	138,755	121,998	141,417	123,356	169,837	192,938	231,470	236,338	228,255	191,652	103,384	0	2,023,722
Hydro ≤ 50 kW DNC	26	20	30	30	30	27	31	30	41	46	38	40	2,802	3,191
Hydro > 20 MW DNC	0	0	0	0	3,306	12,140	16,357	20,233	15,701	15,779	11,017	6,807	0	101,340
Micro Hydro	4,597	4,298	4,756	6,363	6,093	7,079	7,381	7,774	8,531	8,256	7,407	4,375	0	76,910
Landfill Gas	406,334	417,275	404,199	418,587	420,151	407,565	421,321	402,854	422,252	414,447	378,575	411,097	0	4,924,657
Offshore Wind	868,644	849,171	1,018,004	734,940	881,577	1,353,120	1,289,971	1,551,895	2,045,203	1,730,454	1,610,994	1,755,625	0	15,689,598

⁴⁴ The column listed as 'Annual' relates to annually issued ROCs for microgeneration under the NIRO. Sewage gas, where listed under 'Fuelled' technology, refers to stations which may have used other types of fuel to generate electricity; sewage gas, where listed separately, refers to stations solely using sewage gas to generate electricity.

Table A9: Total ROCs issued across all schemes for each month of 2012-13 by generation technology⁴⁴

Generation Technology	Apr 2012	May 2012	June 2012	Jul 2012	Aug 2012	Sep 2012	Oct 2012	Nov 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013	Annual	Total
Onshore Wind	786,813	659,721	711,588	584,054	713,656	1,338,075	769,248	1,219,465	1,520,206	1,467,615	1,053,628	1,354,009	0	12,178,078
Solar PV	1,111	1,519	1,550	1,502	1,605	1,383	768	453	173	314	694	6,005	0	17,077
Solar PV ≤ 50 kW	0	0	0	0	0	0	0	0	0	0	0	0	6,282	6,282
Sewage Gas	46,530	45,800	45,525	44,818	44,577	39,818	45,085	46,447	43,114	45,728	42,532	49,166	0	539,140
Tidal Flow	824	143	431	784	672	685	1,005	906	162	434	721	770	0	7,537
Wave Power	91	0	8	36	0	2	2	20	19	26	18	2	0	224
Wind ≤ 50 kW DNC	3	3	3	2	2	3	3	3	3	3	3	3	7,550	7,584
Total	2,656,777	2,556,414	2,739,763	2,482,026	2,739,416	4,072,165	3,578,391	4,433,673	5,227,181	4,917,306	4,125,536	4,752,976	17,095	44,298,719

Table A10: ROCs issued under the RO (England and Wales) for each month of 2012-13 by generation technology

Generation Technology	Apr 2012	May 2012	June 2012	Jul 2012	Aug 2012	Sep 2012	Oct 2012	Nov 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013	Total
Fuelled (generation types below)	296,627	311,567	303,846	419,465	437,406	614,734	703,693	821,533	813,251	899,689	737,658	994,424	7,353,893
Advanced gasification	0	0	0	0	0	100	111	669	1,207	912	1,122	430	4,551
Anaerobic Digestion	37,483	38,611	39,444	37,300	38,407	36,915	39,237	42,033	40,003	40,354	37,765	40,059	467,611
Co-firing of biomass	77,465	94,469	85,605	90,319	65,877	46,281	35,255	21,162	16,927	22,781	41,360	29,422	626,923
Co-firing of energy crops	8,226	7,848	10,364	11,065	5,637	3,298	4,143	2,540	1,373	1,623	872	5,847	62,836
Dedicated biomass	135,361	127,556	105,703	224,465	271,912	488,363	574,681	709,189	702,181	784,924	610,474	860,030	5,594,839
Dedicated biomass with CHP	28,452	32,329	49,781	42,190	42,475	33,721	42,795	37,666	44,554	44,003	41,865	56,018	495,849
Dedicated energy crops	2,848	3,223	5,817	6,911	6,518	0	674	1,980	628	456	510	408	29,973
Electricity from sewage gas	6,771	7,391	6,986	6,979	6,513	6,019	6,770	6,249	6,335	4,548	3,657	2,188	70,406
Standard gasification	0	119	132	232	0	0	0	0	0	0	0	0	483
Unspecified	21	21	14	4	67	37	27	45	43	88	33	22	422
Hydro ≤ 20 MW DNC	12,759	11,360	19,376	21,329	14,283	17,096	24,636	21,931	30,644	21,208	20,372	7,658	222,652
Micro Hydro	991	970	1,177	1,313	992	1,265	1,486	1,507	1,569	1,503	1,353	994	15,120
Landfill Gas	361,215	371,026	359,499	372,857	373,756	361,998	374,679	357,229	375,596	368,058	336,364	366,018	4,378,295
Offshore Wind	801,739	784,382	955,891	680,960	820,162	1,242,021	1,216,370	1,451,362	1,950,480	1,623,239	1,546,199	1,649,591	14,722,396
Onshore Wind	252,567	195,412	258,510	166,255	197,545	310,367	275,023	326,113	450,459	362,609	314,493	374,841	3,484,194
Solar PV	1,111	1,519	1,550	1,502	1,605	1,383	768	453	173	314	694	6,000	17,072
Sewage Gas	44,335	43,665	43,491	42,711	42,040	37,033	42,259	43,930	41,031	43,559	40,756	46,876	511,686
Total	1,771,344	1,719,901	1,943,340	1,706,392	1,887,789	2,585,897	2,638,914	3,024,058	3,663,203	3,320,179	2,997,889	3,446,402	30,705,308

Table A11: SROCs issued under the ROS (Scotland) for each month of 2012-13 by generation technology

Generation Technology	Apr 2012	May 2012	June 2012	Jul 2012	Aug 2012	Sep 2012	Oct 2012	Nov 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013	Total
Fuelled (generation types below)	96,390	122,711	122,243	123,883	99,149	119,805	122,375	122,354	113,041	97,964	82,536	57,712	1,280,163
Anaerobic Digestion	7,397	10,747	10,732	12,831	12,718	13,011	13,849	12,418	10,532	10,681	9,454	10,853	135,223
Co-firing of biomass	693	0	0	0	0	0	0	0	0	0	0	0	693
Dedicated biomass	8,920	7,229	7,340	8,043	7,890	5,217	8,735	7,254	7,394	8,886	8,573	10,766	96,247
Dedicated biomass with CHP	79,072	103,416	103,886	102,410	78,541	101,577	99,791	102,682	95,115	78,397	64,509	36,093	1,045,489
Dedicated energy crops with CHP	308	1,319	285	599	0	0	0	0	0	0	0	0	2,511
Hydro ≤ 20 MW DNC	131,177	127,225	101,965	119,264	108,248	152,147	167,723	209,034	205,162	206,386	170,685	95,300	1,794,316
Hydro > 20 MW DNC	0	0	0	0	3,306	12,140	16,357	20,233	15,701	15,779	11,017	6,807	101,340
Micro Hydro	3,189	2,987	3,069	4,406	4,620	5,244	5,226	5,603	6,179	5,958	5,381	2,794	54,656
Landfill Gas	40,236	40,998	39,882	40,821	41,439	40,588	41,748	41,084	41,707	41,366	37,987	40,302	488,158
Offshore Wind	66,905	64,789	62,113	53,980	61,415	111,099	73,601	100,533	94,723	107,215	64,795	106,034	967,202
Onshore Wind	462,021	404,639	392,346	363,065	441,192	915,087	431,611	789,536	952,575	977,898	644,307	862,800	7,637,077
Solar PV	0	0	0	0	0	0	0	0	0	0	0	5	5
Sewage Gas	2,195	2,135	2,034	2,107	2,537	2,785	2,826	2,517	2,083	2,169	1,776	2,290	27,454
Tidal Flow	0	0	0	0	0	0	0	206	162	0	0	0	368
Wave Power	91	0	8	36	0	2	2	20	19	26	18	2	224
Total	802,204	765,484	723,660	707,562	761,906	1,358,897	861,469	1,291,120	1,431,352	1,454,761	1,018,502	1,174,046	12,350,963

Renewables Obligation

Table A12: NIROCs issued under the NIRO (Northern Ireland) for each month of 2012-13 by generation technology

Generation Technology	Apr 2012	May 2012	Jun 2012	Jul 2012	Aug 2012	Sep 2012	Oct 2012	Nov 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013	Annual	Total
Fuelled (generation types below)	4,465	5,431	5,582	6,145	7,836	7,892	8,213	8,236	9,146	8,296	8,063	9,557	461	89,323
Anaerobic Digestion	1,211	2,157	2,336	3,637	4,113	3,974	3,731	3,910	4,870	4,593	4,455	5,504	461	44,952
Dedicated biomass	837	842	835	645	1,209	1,576	2,076	1,825	1,813	1,484	1,427	1,640	0	16,209
Dedicated biomass with CHP	2,417	2,432	2,411	1,863	2,514	2,342	2,406	2,501	2,463	2,219	2,181	2,413	0	28,162
Hydro ≤ 20 MW DNC	386	170	657	824	825	594	579	505	532	661	595	426	0	6,754
Hydro ≤ 50 kW DNC	26	20	30	30	30	27	31	30	41	46	38	40	2,802	3,191
Micro Hydro	417	341	510	644	481	570	669	664	783	795	673	587	0	7,134
Landfill Gas	4,883	5,251	4,818	4,909	4,956	4,979	4,894	4,541	4,949	5,023	4,224	4,777	0	58,204
Onshore Wind	72,225	59,670	60,732	54,734	74,919	112,621	62,614	103,816	117,172	127,108	94,828	116,368	0	1,056,807
Solar PV ≤ 50 kW DNC	0	0	0	0	0	0	0	0	0	0	0	0	6,282	6,282
Tidal Flow	824	143	431	784	672	685	1,005	700	0	434	721	770	0	7,169
Wind ≤ 50 kW DNC	3	3	3	2	2	3	3	3	3	3	3	3	7,550	7,584
Total	83,229	71,029	72,763	68,072	89,721	127,371	78,008	118,495	132,626	142,366	109,145	132,528	17,095	1,242,448

Table A13: ROCs revoked during 2012-13 by month and technology type (all schemes)

Generation Technology	Apr 2012	May 2012	Jun 2012	Jul 2012	Aug 2012	Sep 2012	Oct 2012	Nov 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013	Total
Fuelled (generation types below)	134	403	373	93	45	11	14	113	1	7	8	4	1,206
Anaerobic Digestion	40	0	0	0	22	0	0	0	0	1	0	0	63
Co-firing of biomass	23	32	24	26	21	10	11	3	1	5	8	1	165
Co-firing of energy crops	4	4	3	4	2	1	3	1	0	1	0	3	26
Dedicated biomass	31	242	236	61	0	0	0	109	0	0	0	0	679
Dedicated biomass with CHP	36	125	110	2	0	0	0	0	0	0	0	0	273
Landfill Gas	145	125	281	62	159	27	28	28	4	0	0	0	859
Onshore Wind	414	143	209	121	100	123	1,713	118	294	32	0	0	3,267
Total	693	671	863	276	304	161	1,755	259	299	39	8	4	5,332

Appendix 4: Compliance by licensed suppliers

Table A14: Supplier groups and their licences

Supplier Group	Supply Licences
BES Commercial Electricity Limited	BES Commercial Electricity Limited
	Business Energy Solutions Ltd
British Gas Trading Limited	British Gas Trading Limited
	Electricity Direct (UK) Limited
E.ON Energy Limited	E.ON Energy Limited
	E.ON UK Plc
	Economy Power Limited
EDF Energy plc	British Energy Direct Limited
	EDF Energy Customers Plc
	SEEBOARD Energy Limited
Electricity Supply Board	Electricity Supply Board
	ESB Independent Energy NI Limited
Gilmond Consulting	I Supply Electricity 2 Limited
	I Supply Electricity 3 Limited
	I Supply Electricity Limited
	Simply Electricity Ltd
	Supply Energy Limited
I.C.S. 1989 Limited	Bayswater Energy Limited
	I.C.S. 1989 Limited
Opus Energy Limited	Donnington Energy Limited
	Farmoor Energy Limited
	Opus Energy (Corporate) Limited
	Opus Energy Limited
	Opus Energy Renewables Limited
RWE Npower Plc	Electricity Plus Supply Limited
	Npower Direct Limited
	Npower Limited
	Npower Northern Limited
	Npower Northern Supply Limited
	Npower Yorkshire Limited
	Npower Yorkshire Supply Limited
	Npower Limited (NI)
SSE Energy Supply Limited	South Wales Electricity Limited
	SSE Energy Supply Limited
	SSE Energy Supply Limited
	Airtricity Energy Supply Limited

Table A14: Supplier groups and their licences

Supplier Group	Supply Licences
Utiligroup Ltd	SSE (Ireland) Limited
	Callisto Energy Supply Limited
	Ganymede Energy Supply Limited
	Oberon Energy Supply Limited
Utiliteam	Angel Energy Limited
	Holborn Energy Limited
	Kensington Power Limited

Table A15: Summary of compliance by supplier group in 2012-13 (all schemes)

Supplier group	Total obligation (ROCs)	Total ROCs presented	Total payments made by supplier	Total redistributed to supplier	% of funds
Abacus Financial Limited	0	0	£0	£0	0.0%
AES Ballylumford	0	0	£0	£0	0.0%
Airtricity Energy Supply Limited	0	0	£0	£0	0.4%
AMRECS LLC	0	0	£0	£0	0.0%
Axis Telecom Limited	168	0	£6,839.28	£0	0.0%
AXPO UK Limited	0	0	£0	£0	0.0%
BES Commercial Electricity Limited	27,990	0	£1,139,472.90	£0	0.0%
Better Business Energy Limited	0	0	£0	£0	0.0%
Better Energy Supply Limited	0	0	£0	£0	0.0%
Blizzard Utilities Limited	0	0	£0	£0	0.0%
Bord Gais Eireann	0	0	£0	£0	0.0%
BP Power Trading Limited	569	0	£23,163.99	£0	0.0%
Brilliant Energy Limited	0	0	£0	£0	0.0%
British Gas Trading Limited	6,950,515	6,039,658	£37,080,988.47	£22,179,217	13.5%
Budget Energy Limited	7,230	0	£294,422.00	£0	0.0%
ConocoPhillips (U.K.) Limited	57,360	0	£2,335,125.60	£0	0.0%
Co-operative Energy Ltd	0	0	£0	£0	0.0%
Crown Oil Limited	0	0	£0	£0	0.0%
Dong Energy Power Sales UK Limited	0	0	£0	£0	0.0%
Dual Energy Direct Limited	43,949	0	£1,789,163.79	£0	0.0%
E.ON Energy Limited	7,917,629	7,045,863	£35,489,593.86	£25,874,265	15.7%
Economy Energy Trading Limited	2,481	0	£101,031.95	£0	0.0%
Ecotrade Solutions Limited	0	0	£0	£0	0.0%
Ecotricity Group Limited	46,502	46,502	£0	£170,764	0.1%
EDF Energy plc	8,424,931	8,149,212	£11,224,520.49	£29,926,052	18.2%
Electricity Supply Board	110,221	110,221	£0	£404,759	0.2%
Eneco energy Trade BV	3,235	0	£131,696.85	£0	0.0%

Table A15: Summary of compliance by supplier group in 2012-13 (all schemes)

Supplier group	Total obligation (ROCs)	Total ROCs presented	Total payments made by supplier	Total redistributed to supplier	% of funds
Energy Data Company (EnDCo) Limited	7,340	0	£299,261.66	£0	0.0%
ETUL Limited	0	0	£0	£0	0.0%
F & S Energy Limited	0	0	£0	£0	0.0%
Firmus Energy Supply Limited	10,843	0	£441,418.53	£0	0.0%
First Utility Limited	115,233	0	£4,691,135.43	£0	0.0%
FIT Energy Supply Limited	0	0	£0	£0	0.0%
Flow Energy Limited	35	0	£1,424.85	£0	0.0%
Gazprom Marketing & Trading Retail Limited	251,113	251,113	£0	£922,150	0.6%
GDF Suez Marketing Limited	2,125,784	2,125,784	£0	£7,806,437	4.7%
Gilmond Consulting	0	0	£0	£0	0.0%
Gilmond Holdings Ltd	2,299	0	£93,592.29	£0	0.0%
Good Energy Limited	25,643	25,643	£0	£94,165	0.1%
Green Energy (UK) Limited	8,225	8,225	£0	£30,202	0.0%
Haven Power Limited	859,191	859,191	£0	£3,155,173	1.9%
Home Counties Energy Plc	0	0	£0	£0	0.0%
Hudson Energy Supply UK Limited	6,561	0	£267,219.05	£0	0.0%
I.C.S. 1989 Limited	0	0	£0	£0	0.0%
International Power Plc	0	0	£0	£0	0.0%
KAL-Energy Limited	0	0	£0	£0	0.0%
Lissan Coal Company Ltd	501	0	£20,408.00	£0	0.0%
Lourdes Associates Limited	0	0	£0	£0	0.0%
Lumen Energy Supply Limited	0	0	£0	£0	0.0%
MA Energy Limited	12,994	0	£531,247.16	£0	0.0%
Morgan Stanley Capital Group Inc	0	0	£0	£0	0.0%
Nationwide Electricity Limited	0	0	£0	£0	0.0%
Neas Energy Limited	0	0	£0	£0	0.0%
Nordjysk Elhandel A/S	0	0	£0	£0	0.0%
ONI Electricity Limited	0	0	£0	£0	0.0%
Open4Energy Limited	0	0	£0	£0	0.0%
Opus Energy Limited	463,816	463,816	£0	£1,703,248	1.0%
OVO Electricity Limited	103,025	0	£4,194,147.75	£0	0.0%
Pan-Utility Limited	0	0	£0	£0	0.0%
Power & Gas Ventures Limited	0	0	£0	£0	0.0%
Power NI	267,693	113,693	£6,269,340	£417,507	0.3%
Power4All Limited	202,736	92,864	£4,472,889.12	£341,017	0.2%
PX Group	0	0	£0	£0	0.0%
Quinn Energy Supply Limited	5	0	£203.64	£0	0.0%

Table A15: Summary of compliance by supplier group in 2012-13 (all schemes)

Supplier group	Total obligation (ROCs)	Total ROCs presented	Total payments made by supplier	Total redistributed to supplier	% of funds
R Electrics Limited	0	0	£0	£0	0.0%
Reuben Power Supply Limited	0	0	£0	£0	0.0%
RWE Npower Plc	7,885,936	7,506,498	£15,446,920.98	£27,565,830	16.8%
S. C. Isramart SRL	0	0	£0	£0	0.0%
Scottish Power Energy Retail Limited	3,763,458	3,457,795	£12,443,540.73	£12,697,934	7.7%
Scottish Power Energy Retail Ltd	0	0	£0	£0	0.0%
SembCorp Utilities (UK) Limited	76,468	0	£3,113,012.28	£0	0.0%
Smart Electricity Limited	0	0	£0	£0	0.0%
Smartest Energy	722,964	722,964	£0	£2,654,912	1.6%
Spark Energy Supply Limited	21,398	0	£879,119.66	£0	0.0%
SSE Energy Supply Limited	7,630,580	7,025,580	£24,629,550	£25,799,778	15.3%
Statkraft Markets GmbH	0	0	£0	£0	0.0%
Symbio Energy LLP	5	0	£203.67	£0	0.0%
Team Gas and Electricity Limited	0	0	£0	£0	0.0%
The Co-operative Energy Limited	42,219	42,219	£0	£155,036	0.1%
The Nuclear Decommissioning Authority	1,292	0	£52,621.10	£0	0.0%
Total Gas & Power Limited	595,454	595,454	£0	£2,186,661	1.3%
Tradelink Solutions Limited	0	0	£0	£0	0.0%
Tradelink Solutions Limited	0	0	£0	£0	0.0%
UK Healthcare Corporation Limited	0	0	£0	£0	0.0%
Universal Bioenergy Limited	0	0	£0	£0	0.0%
Utiligroup Ltd	0	0	£0	£0	0.0%
Utilita Energy Limited	28,310	0	£1,162,739.83	£0	0.0%
Utiliteam	0	0	£0	£0	0.0%
Utility Partnership Limited	0	0	£0	£0	0.0%
Uttily (UK) Limited	0	0	£0	£0	0.0%
Vayu Limited	327	0	£13,318.19	£0	0.0%
Viridian Energy Supply Limited	91,204	91,204	£0	£334,922	0.2%
Winnington Networks Limited	0	0	£0	£0	0.0%
Totals	48,915,432	44,773,499	£168,639,333.10	£164,420,029	

Table A16: Compliance by licence with the RO (England and Wales)

Licence	RO obligation (ROCs)	Total ROCs presented	GB ROCs presented	NIROCs presented	Buy-out payment made by supplier	Late payment made by supplier	Buy-out payment redistributed to supplier	Late payment redistributed to supplier
Axis Telecom Limited	168	0	0	0	£6,839.28	£0	£0	£0
BES Commercial Electricity Limited	25,274	0	0	0	£1,028,904.54	£0	£0	£0
BP Power Trading Limited	569	0	0	0	£23,163.99	£0	£0	£0
British Energy Direct Ltd	792,592	516,873	516,873	0	£11,224,520.49	£0	£1,869,344	£39,564
British Gas Trading Ltd	6,399,147	5,560,546	5,538,850	21,696	£34,139,446.71	£0	£19,862,950	£420,400
Dual Energy Direct Limited	40,389	0	0	0	£1,644,236.19	£0	£0	£0
E.ON Energy Limited	4,198,563	3,712,261	3,599,275	112,986	£19,797,354.42	£0	£12,933,430	£273,736
E.ON UK Plc	3,327,965	2,942,501	2,942,501	0	£15,692,239.44	£0	£10,238,681	£216,702
Economy Energy Trading Limited	2,481	0	0	0	£0	£101,031.95	£0	£0
EDF Energy Customers Plc	7,268,922	7,268,922	7,017,303	251,619	£0	£0	£24,931,410	£527,674
Electricity Plus Supply Ltd	269,125	256,097	256,097	0	£530,369.88	£0	£886,401	£18,760
Eneco Energy Trade BV	2,991	0	0	0	£121,763.61	£0	£0	£0
Energy Data Company Limited	7,340	0	0	0	£0	£299,261.66	£0	£0
First Utility Limited	108,601	0	0	0	£4,421,146.71	£0	£0	£0
Flow Energy Limited	35	0	0	0	£1,424.85	£0	£0	£0
Garsington Energy Ltd	8,001	8,001	5,092	2,909	£0	£0	£27,050	£572
Gazprom Marketing & Trading Retail Ltd	229,256	229,256	229,256	0	£0	£0	£825,848	£17,479

Renewables Obligation

Table A16: Compliance by licence with the RO (England and Wales)

Licence	RO obligation (ROCs)	Total ROCs presented	GB ROCs presented	NIROCs presented	Buy-out payment made by supplier	Late payment made by supplier	Buy-out payment redistributed to supplier	Late payment redistributed to supplier
GDF Suez Energy UK	1,990,156	1,990,156	1,899,675	90,481	£0	£0	£6,991,181	£147,968
Good Energy Ltd	24,284	24,284	24,284	0	£0	£0	£84,333	£1,784
Haven Power Ltd	820,645	820,645	801,273	19,372	£0	£0	£2,825,667	£59,805
Hudson Energy Supply UK Limited	6,198	0	0	0	£0	£252,434.64	£0	£0
I Supply Energy	2,211	0	0	0	£90,009.81	£0	£0	£0
MA Energy Limited	12,577	0	0	0	£75,000	£439,271.09	£0	£0
Npower Direct Ltd	364,156	346,527	346,527	0	£717,676.59	£0	£1,211,267	£25,636
Npower Ltd	5,301,632	5,026,850	5,026,850	0	£11,186,375.22	£0	£17,558,066	£371,617
Npower Northern Supply Ltd	1,313,628	1,250,036	1,250,036	0	£2,588,830.32	£0	£4,358,385	£92,245
Npower Yorkshire Supply Ltd	214,972	204,565	204,565	0	£423,668.97	£0	£672,905	£14,242
Opus Energy (Corporate) Limited	232,675	232,675	214,977	17,698	£0	£0	£841,332	£17,806
Opus Energy Ltd	190,063	190,063	164,575	25,488	£0	£0	£684,044	£14,477
OVO Electricity Limited	98,783	0	0	0	£4,021,455.93	£0	£0	£0
Power4All Limited	177,538	67,666	67,666	0	£4,472,889.12	£0	£305,406	£6,463
Renewable Energy Company Ltd	44,605	44,605	44,428	177	£0	£0	£152,933	£3,236
ScottishPower Energy Retail Ltd	2,514,404	2,208,741	2,058,529	150,212	£12,443,540.73	£0	£11,371,837	£240,685
SmartestEnergy Ltd	648,369	648,369	648,369	0	£0	£0	£2,377,650	£50,323
Spark Energy Supply Limited	19,693	0	0	0	£0	£809,071.10	£0	£0
SSE Energy Supply Ltd	6,320,662	5,804,498	5,693,329	111,169	£21,013,036.44	£0	£22,535,743	£476,970
Symbio Energy LLP	5	0	0	0	£0	£203.67	£0	£0
The Co-operative	40,849	40,849	38,435	2,414	£0	£0	£138,847	£2,938

Renewables Obligation

Table A16: Compliance by licence with the RO (England and Wales)

Licence	RO obligation (ROCs)	Total ROCs presented	GB ROCs presented	NIROCs presented	Buy-out payment made by supplier	Late payment made by supplier	Buy-out payment redistributed to supplier	Late payment redistributed to supplier
Energy Ltd								
The Nuclear Decommissioning Authority	1,292	0	0	0	£0	£52,621.10	£0	£0
Total Gas & Power UK	551,915	551,915	551,915	0	£0	£0	£1,958,301	£41,447
Utilita Energy Limited	28,277	0	0	0	£0	£1,161,390.93	£0	£0
VPI Immingham LLP	57,360	0	0	0	£2,335,125.60	£0	£0	£0
Wilton Energy Limited	76,468	0	0	0	£3,113,012.28	£0	£0	£0
Totals	43,734,836	39,946,901	39,140,680	806,221	£151,112,031.12	£3,115,286.14	£145,643,011	£3,082,529

Table A17: Compliance by licence with the ROS (Scotland)

Licence	ROS Obligation (ROCs)	Total ROCs presented	GB ROCs presented	NIROCs presented	Buy-out Payment Made by Supplier	Late Payment Made by Supplier	Buy-out Payment Redistributed to Supplier	Late Payment Redistributed to Supplier
BES Commercial Electricity Limited	2,716	0	0	0	£110,568.36	£0	£0	£0
British Energy Direct Ltd	51,532	51,532	51,532	0	£0	£0	£90,139	£1,094
British Gas Trading Ltd	551,368	479,112	479,112	0	£2,941,541.76	£0	£957,793	£11,631
Dual Energy Direct Limited	3,560	0	0	0	£144,927.60	£0	£0	£0
E.ON Energy Limited	220,362	220,362	220,362	0	£0	£0	£623,651	£7,573
E.ON UK Plc	170,739	170,739	170,739	0	£0	£0	£493,710	£5,995
EDF Energy Customers Plc	311,885	311,885	311,885	0	£0	£0	£1,202,195	£14,599
Electricity Plus Supply Ltd	13,428	13,428	13,428	0	£0	£0	£42,742	£519

Renewables Obligation

Table A17: Compliance by licence with the ROS (Scotland)

Licence	ROS Obligation (ROCs)	Total ROCs presented	GB ROCs presented	NIROCs presented	Buy-out Payment Made by Supplier	Late Payment Made by Supplier	Buy-out Payment Redistributed to Supplier	Late Payment Redistributed to Supplier
Eneco energy Trade BV	244	0	0	0	£9,933.24	£0	£0	£0
First Utility Limited	6,632	0	0	0	£269,988.72	£0	£0	£0
Garsington Energy LTD	224	224	224	0	£0	£0	£1,304	£15
Gazprom Marketing & Trading Retail Ltd	21,857	21,857	21,857	0	£0	£0	£39,822	£483
GDF SUEZ ENERGY UK	135,628	135,628	135,628	0	£0	£0	£337,115	£4,093
Good Energy Ltd	1,359	1,359	1,359	0	£0	£0	£4,066	£49
Haven Power Ltd	38,546	38,546	34,369	4,177	£0	£0	£136,254	£1,654
Hudson Energy Supply UK Limited	363	0	0	0	£0	£14,784.41	£0	£0
I Supply Energy	88	0	0	0	£3,582.48	£0	£0	£0
MA Energy Limited	417	0	0	0	£16,976.07	£0	£0	£0
Npower Direct Ltd	21,779	21,779	21,779	0	£0	£0	£58,407	£709
Npower Ltd	311,970	311,970	311,970	0	£0	£0	£846,651	£10,281
Npower Northern Supply Ltd	75,203	75,203	75,203	0	£0	£0	£210,161	£2,552
Npower Yorkshire Supply Ltd	43	43	43	0	£0	£0	£32,447	£394
Opus Energy (Corporate) Limited	23,146	23,146	23,001	145	£0	£0	£40,569	£492
Opus Energy Ltd	17,932	17,932	17,932	0	£0	£0	£32,984	£400
OVO Electricity Limited	4,242	0	0	0	£172,691.82	£0	£0	£0
Power4All Limited	25,198	25,198	25,198	0	£0	£0	£14,726	£178
Renewable Energy Company Ltd	1,897	1,897	1,897	0	£0	£0	£7,374	£89
ScottishPower Energy Retail Ltd	1,249,054	1,249,054	1,244,762	4,292	£0	£0	£548,351	£6,659

Renewables Obligation

Table A17: Compliance by licence with the ROS (Scotland)

Licence	ROS Obligation (ROCs)	Total ROCs presented	GB ROCs presented	NIROCs presented	Buy-out Payment Made by Supplier	Late Payment Made by Supplier	Buy-out Payment Redistributed to Supplier	Late Payment Redistributed to Supplier
SmartestEnergy Ltd	74,595	74,595	74,595	0	£0	£0	£114,650	£1,392
Spark Energy Supply Limited	1,705	0	0	0	£0	£70,048.56	£0	£0
SSE Energy Supply Ltd	1,136,703	1,047,867	1,043,429	4,438	£3,616,513.56	£0	£1,086,675	£13,196
The Co-operative Energy Ltd	1,370	1,370	987	383	£0	£0	£6,695	£81
Total Gas & Power UK	43,539	43,539	43,539	0	£0	£0	£94,429	£1,146
Utilita Energy Limited	33	0	0	0	£0	£1,348.90	£0	£0
Totals	4,519,357	4,338,265	4,324,830	13,435	£7,286,723.61	£86,181.87	£7,022,910	£85,274

Table A18: Compliance by licence with the NIRO (Northern Ireland)

Licence	NIRO Obligation (ROCs)	Total ROCs presented	GB ROCs presented	NIROCs presented	Buy-out payment made by supplier	Late payment made by supplier	Buy-out payment redistributed to supplier	Late payment redistributed to supplier
Airtricity Energy Supply (NI) Ltd	173,215	173,215	0	173,215	£0	£0	£25,298	£1,271
Budget Energy Limited	7,230	0	0	0	£0	£294,422.00	£0	£0
ESB Independent Energy (NI) Ltd	110,221	110,221	0	110,221	£0	£0	£16,098	£809
Firmus Energy Supply Limited	10,843	0	0	0	£441,418.53	£0	£0	£0
LCC Power Limited	501	0	0	0	£0	£20,408.00	£0	£0
Power NI Energy Ltd	267,693	113,693	0	113,693	£6,269,340	£0	£16,605	£834
Quinn Energy Supply Limited	5	0	0	0	£0	£203.64	£0	£0
Vayu Limited	327	0	0	0	£0	£13,318.19	£0	£0
Viridian Energy Supply Ltd	91,204	91,204	0	91,204	£0	£0	£13,320	£669
Totals	661,239	488,333	0	488,333	£6,710,758.53	£328,351.83	£71,321	£3,583

Table A19: Suppliers with an obligation who did not meet the statutory deadline of 1 June 2013 for supply volume estimate

Supplier name
BP Power Trading Limited
Co-operative Energy Limited
Smartest Energy Limited
Symbio Energy LLP
Utilita Energy Limited
Electricity Supply Board
Firmus Energy Supply Board

Table A20: Suppliers with an obligation who did not meet the statutory deadline of 1 July 2013 for final supply volume

Supplier Name
Economy Energy Trading Limited
Smartest Energy Limited
Symbio Energy LLP
Budget Energy Limited
Vayu Limited
LCC Power Limited

Appendix 5: Glossary of terms

A

Act	Electricity Act 1989
AD	Anaerobic Digestion
ASA	Agency Services Agreement

C

CHP	Combined Heat and Power
CfD	Contracts for Difference

D

DECC	Department of Energy and Climate Change
Defra	Department for Environment, Food and Rural Affairs
DETINI	Department of Enterprise, Trade and Investment Northern Ireland
DNC	Declared Net Capacity

E

EU	European Union
EMR	Electricity Market Reform

F

FMS	Fuel Measurement and Sampling
FIT	Feed-in Tariff

G

GB	Great Britain
GHG	Greenhouse Gas

GCV Gross Calorific Value

K

kW Kilowatt

kWh Kilowatt-hour

M

MW Megawatt

MWh Megawatt-hour

MCS Micro generation Certification Scheme

N

NI Northern Ireland

NIRO Northern Ireland Renewables Obligation

NIROC Northern Ireland Renewables Obligation Certificate

NFFO Non-Fossil Fuel Obligation

NI NFFO Northern Ireland Non-Fossil fuel Obligation

O

Ofgem Office of Gas and Electricity Markets

P

Payment Buy-out and late payments collectively

PV Photovoltaic

R

RED Renewable Energy Directive 2009

RHI Renewable Heat Incentive

RO Renewables Obligation

ROC Renewables Obligation Certificate

ROS Renewables Obligation Scotland

RPI Retail Prices Index

S

SRO Scottish Renewables Obligation (NFFO)

SROC Scottish Renewables Obligation Certificate

T

TIC Total Installed Capacity

TWh Terawatt-hour

U

UK United Kingdom

UR Utility Regulator Northern Ireland